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NOTE.

The following text-books published under the authority of the Board, referred to in the body of the Prospectus for the High School and Intermediate Examinations, are available from the publishers and at the prices noted against each:—

Name of the book.	Name of the Publisher.	Price.
Intermediate English Poetry Text-book.	Indian Press Ltd., Allahabad.	Re. -/12/-
Intermediate English Prose Text-book.	Indian Press Ltd., Allahabad.	Rs. 2/-
High School English Poetry Text-book.	Indian Press Ltd., Allahabad.	Re. -/10/-
High School English Prose Text-book.	Indian Press Ltd., Allahabad.	Re. 1/8/-
High School Hindi Prose Text-book.	Educational Publishers Ltd., Ajmer.	Re. 1/4/-
High School Hindi Poetry Text-book.	Educational Publishers Ltd., Ajmer.	Re. -/12/-
High School Sanskrit Text-book.	Vedic Yantralaya, Ajmer.	Re. -/14/-

Text-books published by the above authorised publishers, bearing the *Board Seal* on their title pages, should alone be taken as published under the authority of the Board as regards the authenticity of the courses prescribed for its examinations.

MADAN MOHAN VARMA, M.A.,
RAI SAHIB,
Secretary.

PROSPECTUS

OF THE

EXAMINATIONS

OF THE

Board of High School and Intermediate Education, Rajputana
(including Ajmer-Merwara), Central India and Gwalior,
FOR 1941.



*Published under the Authority of the Board of High School and
Intermediate Education, Rajputana (including Ajmer-
Merwara), Central India and Gwalior, Ajmer.*

AJMER:
Board Office

1939.

PRICE 8 ANNAS.

**High School Examination, Intermediate Examination,
Intermediate Examination in Commerce and
Teachers' Training Certificate
Examination.**

Chapters XII to XVIA of the Board Regulations.

N. B.—These regulations are subject to amendments from time to time, as the Board may determine. Notice of such amendments will be given to the Heads of the institutions recognized by the Board and the Heads of the Education departments of the States or British Areas within the jurisdiction of the Board.

CHAPTER XII.

Private Candidates.

1. Private candidates shall be eligible to appear at the Board's Examinations on the conditions laid down in these regulations.

2. A candidate who desires to offer himself for examination as a private candidate should, not later than the 1st of October preceding the date fixed for the next ensuing examination, send in an application in the prescribed form together with the examination fee to the Secretary, through the Head of the Education Department of a State or British Area, maintaining at least one High School recognised by the Board.

Applications of private candidates from a State not maintaining a High School shall be sent duly countersigned by the highest officer of that State.

He should also forward the original copy of the scholar's register granted to him by the institution, if any, at which he last studied.

Provided that a candidate, who has appeared and failed at the High School Examination of the Board as a school candidate from a recognised institution, may send his application for permission to appear at that examination as a private candidate signed by the Headmaster of the school from which he failed and countersigned by the Head of the Education Department of the Indian State or British Area concerned where the institution is located. Such a candidate will appear at the examination at a place in British Area or Indian State where the school candidates from the institution, from which he failed, will appear.

Provided also that a candidate, who appeared and failed at the Intermediate or Intermediate Examination in Commerce as a college candidate from a recognised institution, may send his application for permission to appear at the examination as a private candidate signed by the Principal of the college from which he failed. Such a candidate will appear at the examination at a place in British Area or Indian State where the college candidates from the institution, from which he failed, will appear.

N. B.—In the case of women candidates the application may be forwarded through the Principal of an Intermediate College or the Headmaster of a recognised High School.

3. Private candidates who have failed to obtain promotion to the highest class of any School or Intermediate college, (*i. e.* those who have been detained in class IX and the first year Intermediate class) shall not be admitted to the next ensuing High School or Intermediate Examination.

Every year in the beginning of the session, the heads of institutions under the Board should send to the Secretary of the Board a list of students, who have been detained in class IX and the first year Intermediate class, containing the student's name, his age, his father's name, place of residence and guardian's name.

3A. No student who has left an Anglo-Vernacular school at a stage earlier than the High section shall be permitted to appear at the High School Examination as a private candidate in a year earlier than that in which he would have appeared, if he had continued his studies at a recognised institution up to the High School Examination.

4. Applications from intending private candidates shall be referred to the Committee of the Board appointed to scrutinize applications from private candidates. The Chairman, after considering the recommendations of the Committee, shall grant or reject the applications.

4A. Where a private candidate's application for admission to the examination of the Board is rejected, the examination fee prescribed for the examination, less Re. 1, shall be refunded to him. In the case of candidates whose applications show false statements, an additional penalty, according to the seriousness of the offence, up to the extent of the forfeiture of the whole fee, may be levied.

5. (a) Private candidates may change their subjects of examination from those previously offered by them. If more than one academic year has elapsed since their last appearance at the examination, they will not be required to give any reasons for the change.

(b) Private candidates who appeared and failed at the examination immediately prior to the submission of their applications, and desire to offer for the next examination, subjects other than those previously offered must give an adequate explanation of the change.

*6. Private candidates will not be allowed to offer subjects of examination in the study of which practical work is necessary (even if no practical examination is held). They are allowed to take these subjects as optional subjects for the High School Examination, or Chemistry, Physics or Biology as their optional subjects for the Intermediate Examination provided that they have studied the subject as regular students at an institution recognised by the Board and failed with that subject at the High School or Intermediate Examination, as the case may be, of the previous year and provided further that in the case of Intermediate Examination they have passed in the practical examination of that subject in that year.

7. Candidates residing outside the territorial jurisdiction of the Board shall not be permitted to appear at the Board's Examinations as private candidates unless they submit an adequate explanation why they prefer to take the Rajputana (including Ajmer-Merwara), Central India and Gwalior Board's Examinations. Such applications will only be received when sent through the office of the Director of Public Instruction of the State or in the case of British India through the Divisional Inspector of Schools concerned.

8. Private candidates shall not be allowed to offer for their examination any subject, even if the subject is recognised for the examination, which is not being taught in a recognised institution or in which no institution is recognized.

*N. B.—The following subjects prescribed for the Board's examinations shall be deemed subjects which involve practical work or a practical examination for the purposes of this regulation:—

High School Examination.

- (1) Physics and Chemistry (2) Agriculture (3) Manual Training
(4) Metal Work.

Intermediate Examination.

- (1) Chemistry (2) Physics (3) Biology (4) Physiology and Hygiene.

8A. Notwithstanding anything contained in the above regulation, private girl candidates, who offer Domestic Science, shall be allowed to appear at the High School Examination of the Board.

9. Private candidates, who passed the Cambridge School Certificate examination, and intend to appear at the Intermediate Examination, should specify in the application form the standard of attainment in each of the subjects in which they have passed the Cambridge School Certificate Examination as shown in the detailed result of the Examination.

10. Notwithstanding anything contained in these regulations, any woman candidate, who is not studying at a recognized institution, may be admitted as a private candidate to any of its examinations provided that (1) before appearing at the Intermediate Examination two years should have elapsed since the date of her passing the High School or an equivalent examination; (2) candidates who have failed to obtain promotion to the highest class of any school or intermediate college (*i. e.* those who have been detained in class IX or first year Intermediate class) shall not be admitted to the next ensuing High School or Intermediate Examination; and (3) a candidate offering Physics and Chemistry, Elementary Science and Agriculture for the High School Examination, and Physics, Chemistry and Biology for the Intermediate Examination, submits a certificate from the Head of a recognised institution to the effect that a satisfactory course in practical work in the Science subjects offered by her has been gone through by her in the laboratory of that recognised institution.

11. A candidate who has passed a public examination* in an Oriental language (Sanskrit, Persian, or Arabic), or in

*N. B.—The following examinations are recognised by the Board as public examinations in Oriental Languages.—

- (1) Maulvi, Alim, Mulla (now defunct) and Fazil in Arabic, and Munshi and Kamil in Persian, conducted by the Education Department of the United Provinces, the Diploma Examinations in Arabic and Persian conducted by the Lucknow University, and the Munshi (Proficiency in Persian), Munshi Alim (High Proficiency in Persian), Munshi Fazil (Honours in Persian), Maulvi (Proficiency in Arabic), Maulvi Alim (High Proficiency in Arabic) and Maulvi Fazil (Honours in Arabic), conducted by the Punjab University.
- (2) The Sanskrit examinations conducted by the Benares Government Sanskrit College, the Benares Hindu University, the Punjab University, the Education Department, Jaipur State, and the Sanskrit Title Examination of the Calcutta Sanskrit Association.
- (3) The Examination in Advanced Urdu conducted by the Education Department of U. P. and the Adib (Proficiency in Urdu), Adibe-Alim (High Proficiency in Urdu) and Adibe-Fazil (Honours in Urdu) conducted by the Punjab University.
- (4) The examination in Advanced Hindi conducted by the Education Department of U. P. and the Ratna (Proficiency in Hindi), Bhusana (High Proficiency in Hindi), and Prabhakar (Honours in Hindi) conducted by the Punjab University.

advanced Hindi or Urdu, recognized by the Board, may be admitted as a private candidate to the High School Examination in English only, and shall, if successful, be entitled to a certificate of having passed the examination in English only. Similar concession may be given to Drawing Masters working in institutions recognised by the Board who have read up to the High School standard.

12. A candidate, who holds a certificate of having passed the *High School Examination in English only under these regulations or of having passed an examination equivalent to the High School Examination in English only under similar conditions, may be admitted as a private candidate to the Intermediate Examination in English only, provided at least one academical year shall have elapsed since the date of his passing the High School or equivalent examination in English, and such a candidate shall, if successful, be entitled to a certificate of having passed the examination in English only.

CHAPTER XIII

Examinations.

GENERAL RULES.

1. The Board shall conduct the following examinations:—

- (a) The High School Examination ;
- (b) The Intermediate Examination ;
- (c) The Intermediate Examination in Commerce ;
- (d) The Teachers' Training Certificate Examination ;
- (e) Examinations for the award of diplomas or certificates in such other branches of study as the Board may from time to time prescribe.

2. The Board's examinations shall be held at such centres and on such dates and at such times, as the Board may from time to time appoint.

3. The tests at the Board's examinations may be written or partly oral or practical and partly written. Oral and practical tests shall be carried out by the examiners appointed by the Board in such manner as the Examinations' Committee may prescribe from time to time. Written tests shall be by means of question papers, and the question papers shall be given out simultaneously at every centre at which the examination is being held.

*Passing the High School Examination in all subjects may be accepted as a fulfilment of the condition of passing in English required in this regulation, provided the candidate has also passed a recognized public examination in an Oriental language.

4. Every Candidate for admission to an examination held by the Board shall not less than twelve weeks before the date fixed for the commencement of the examination :

- (a) pay the fee prescribed for the examination ;
- (b) state the optional subject or subjects in which he desires to present himself for examination ; and
- (c) furnish the Secretary with a certificate showing—
 - (i) that he has completed a *regular course of study in a recognized institution.
 - (ii) in the case of candidates offering Science for the High School Examination, that he has actually performed the experiments laid down in the syllabus.

*Note—The expression "A regular course of study" means attendance at at least 75 per cent of the lessons and other teaching in a recognised institution in the subject or subjects for the examination at which the candidate intends to appear, and at such other practical work [such as work in a laboratory] as is required by these Regulations or any other rules in force for the time being.

The Board shall for the purposes of a regular course of study, prescribe the †minimum number of meetings of a class that must be held in preparation for any of its examinations.

†Notes—1. The minimum number of days for which recognized institutions, including classes XI and XII, will be open during one academical year, shall be 180, for other recognised institutions the minimum number shall be 200.

2. No candidate will be presented for an examination of the Board by a recognised institution, unless he has been present for at least 75 per cent of the days for which the institution was open during two academical years in classes IX and X in the case of the High School Examination, and for at least 75 per cent of the lectures delivered in each subject and at least 75 per cent of the tutorial and practical work classes held in each subject during two academical years in classes XI and XII in the case of the Intermediate and Intermediate in Commerce Examinations. In the case of the Teachers' Training Certificate Examination, a candidate shall be required to be present at at least 75 per cent of the lectures delivered in each paper in Theory and to teach at least 60 lessons under supervision in practice during the year.

3. Students of Intermediate Colleges who go out on excursions in connection with the practical work in Economics, History, Geography, Commerce, Chemistry, Physics or Biology should be marked present in colleges for the days they are out on such excursions.

4. In the case of failed and detained candidates and of those who having passed the Junior Cambridge (Junior Local) or Senior Cambridge (Senior Local) examinations are admitted to class X of a recognised High School or class XII of a recognised Intermediate College respectively, the percentage will be calculated for one academical year only. The course for the High School or the Intermediate Examination, being a two years' course in each subject, a change of subject in class X or XII is not permissible.

5. In exceptional cases where a candidate has migrated from one institution to another institution both being within the jurisdiction of the Board, and if the optional subject taken by him is not taught in the latter institution, the Head of the institution may permit a change of subject with the permission of the Board. The attendance put in by a candidate in a subject which he subsequently changes with the permission of the Board

5. The following fees shall be paid in respect of the examinations held by the Board :—

- (1) High School Examination...Rupees 20 by each candidate from a recognized institution.
- (2) High School Examination...Rupees 25 by each private candidate.
- (3) Intermediate Examination...Rupees 30 by each candidate from a recognized institution.
- (4) Intermediate Examination...Rupees 35 by each private candidate.
- (5) Intermediate Examination
in Commerce ... Rupees 30 by each candidate from a recognized institution.
- (6) Intermediate Examination
in Commerce ... Rupees 35 by each private candidate
- (7) Teachers' Training Certificate
Examination ... Rupees 30 by each candidate from a recognized institution.

should be counted along with the attendance in the new subject for the purpose of calculating his percentage of attendance in the new subjects.

6. The Head of a recognised institution may condone a deficiency of not more than six days in the case of High School Examination and not more than six lectures in each subject in the case of Intermediate and Intermediate in Commerce Examinations, and of not more than six lectures in each paper in the case of the Teachers' Training Certificate Examination. All cases in which this privilege is exercised must be reported to the Chairman.

7. All cases where the deficiency exceeds six days in the case of High School Examination and six lectures in each subject in the case of Intermediate and Intermediate in Commerce Examinations, and six lectures in each paper in the case of the Teachers' Training Certificate Examination, should be reported to the Chairman of the Board who may in very special circumstances condone a deficiency up to a period of fifteen days in each case in the case of the High School Examination and of fifteen lectures in each case in each subject in the case of the Intermediate and Intermediate in Commerce Examinations and of fifteen lectures in each case in each paper in the case of the Teachers' Training Certificate Examination.

8. In the case of a student or students being absent from class due to participation as members of a school or college athletic or sporting team, the Principals or Headmasters may excuse their absence up to a limit of ten days in the case of High School Examination and of ten lectures in each subject in the case of Intermediate and Intermediate in Commerce Examinations, in addition to the absence of six days or six lectures which they can condone for purposes of making up the required percentage of attendance.

(9) Teachers' Training Certificate

- | | | |
|-------------|-----|--|
| Examination | ... | Rupees 30 by each private candidate appearing in both Theory and Practice and Rs 20/- by each private candidate appearing either in Theory or in Practice. |
|-------------|-----|--|
- (9) Examination in one subject only. ... Rupees 8.
- (10) Examination in more than one subject ... Rupees 5 for each subject.
- (11) Fee for checking the result of failed candidates ... Rupees 10 per candidate.
- (12) Fee for checking the result of failed candidates appearing in one subject only ... Rupees 4 per candidate.
- (13) Fee for communicating the total marks in each subject obtained by a candidate at an examination ... Rupees 3 per candidate.
- (14) Fee for a duplicate copy of the voucher to be granted to candidates permitted to appear at the next ensuing examination on payment of half the usual fee ... Rupee 1.

6. A candidate who fails to pass or is unable to present himself for an examination shall not receive a refund of his fee, Provided.—

- (1) that if a candidate dies before the commencement of the examination, his examination fee shall be refunded.
- (2) that if a candidate is detained from appearing at the examination on account of shortage in percentage of attendance, his examination fee shall be refunded.

6 A. A candidate, who from sickness or other adequate cause is unable to present himself for an examination, may be permitted by the Board to present himself at the next ensuing examination on payment of half the usual fee. In such a case, the application of the candidate, supported by a proper medical certificate or other evidence to show that his absence from the examination was unavoidable, must reach the Secretary within one month after the commencement of the examination, at which the candidate is unable to appear, and it should be sent through the officer who originally forwarded his application for appearing at the examination.

Provided that this concession does not apply to a candidate who absents himself from a part of the examination.

7. The Secretary shall, after satisfying himself that a candidate has complied with all the requirements for admission to an examination of the Board, furnish the candidate with a card of admission, on presentation of which to the Superintendent of the Examination Centre, the candidate shall be permitted to sit for the examination.

8. Notwithstanding anything contained in these regulations no candidate, who has been expelled or is still undergoing rustication, shall be admitted to any examination of the Board.

9. The Secretary, if satisfied that a candidate's admission card has been lost or destroyed, may grant a duplicate card on payment of a further fee of Rs. 2.

10. Except when otherwise provided in these regulations, the names of candidates who have passed an examination of the Board shall be placed in three divisions, and further, the names of students from the recognised institutions shall be grouped according to the institutions in which they have studied.

11. A candidate who has failed in an examination may present himself for one or more subsequent examinations, provided that he shall on each and every such occasion satisfy the Board that he has fulfilled the conditions laid down in the regulations for the admission of candidates to the Board's examinations.

*11 A. A candidate who has failed in one or more subjects at an examination of the Board may apply to the Secretary for the scrutiny of his marks and the re-checking of his result in accordance with the rules framed by the Board.

12. Deleted.

13. A candidate who has failed in one subject only obtaining not less than 25 per cent of marks in that subject and has obtained 40 per cent of the aggregate number of marks allotted to the remaining subjects shall be admitted to the examination of the following year in the subject in which he failed on payment of the fee prescribed in these regulations and if he passes in that subject he shall be deemed to have passed the examination.†

**Rules for the scrutiny of marks and the checking of the results of failed candidates, vide regulation 11 A, chapter XIII of the Regulations.—*

1. Any candidate who has failed at an examination conducted by the Board may apply to the Secretary for the scrutiny of his marks and the re-checking of his result.

2. Such applications must be made within two months from the date of the publication of the results in Part II-A, Gazette of India, New Delhi, and must be forwarded by the Headmaster of the school or Principal of the college or in the case of private candidates by the Head of the Education Department of the State or British Area concerned.

3. All such applications must be accompanied by a fee of Rs. 10 which must be sent to the Secretary by money order.

4. A candidate shall not be entitled to a refund of the fee, unless as a result of the scrutiny, he is declared successful in the examination.

5. If on scrutiny and re-checking a failed candidate is found to have passed, his name shall be at once published in Part II A, Gazette of India, New Delhi, in a supplementary list. In all other cases, the result of the scrutiny shall be communicated to the candidate, as soon as possible, through the officer who forwarded his application.

6. The work of scrutiny does not include re-examination of the answer-books of a failed candidate. It consists of re-checking the marks entered in the answer-books with a view to seeing whether there has been any mistake in totalling the marks assigned to individual questions in the form of omitting the marks assigned to any question.

†1. Compartmental candidates have the option of appearing at the examination as private candidates provided they have not pursued their studies at an educational institution of any kind during the session preceding the examination at which they intend to appear.

2. Compartmental candidates are not eligible for admission to class XI of a recognised Intermediate College unless and until they have passed completely the High School Examination under regulation 2, chapter XIV of these Regulations.

14. A candidate who has fulfilled the conditions laid down for admission to one of the Board's examinations will not be detained from appearing at that examination unless the Chairman of the Board permits the head of the institution concerned to detain him for adequate reasons fully submitted by him in writing to the Chairman.

15. Duplicate copies of certificates shall not be granted except in cases in which the Board is satisfied by the production of an affidavit on a stamped paper of annas eight, through the Headmaster or the Principal of the school or college from which the applicant passed the examination, that the applicant has lost his certificate or that it has been destroyed and that applicant has real need for a duplicate copy of his certificate. In such cases a duplicate of a certificate may be granted on payment of a fee of Rs. 5.

16. Notwithstanding any thing contained in these regulations, no male married candidates, except those who are married before July, 1931, or who are at the time of marriage not less than 18 years of age, shall be admitted from any institution recognised by the Board to the High School Examination after the Examination of 1932. Such candidates may apply for permission to appear as private candidates only, at the High School Examination with effect from the Examination of 1933.

*17. Students who after passing an examination from a Board or University which has been recognised by the Board as equivalent to its High School Examination seek admission to class XI or XII of an Intermediate college within the jurisdiction of the Board, shall, before they are admitted be required by the Principals of the colleges to which they seek admission, to produce an eligibility certificate signed by the Secretary of this Board on payment of a fee of Rs. 2. Applications for such a certificate should be made to the Secretary on a printed form, to be obtained from the office of the Secretary.

*Note.—This Regulation also applies to degree colleges within the jurisdiction of the Board which maintain Intermediate classes in them.

18. A duplicate copy of the eligibility certificate, in case the original copy is reported to have been lost, shall be issued by the Secretary on receipt of a fee of Rs. 1/- .

*19. Total marks obtained by the candidates in each subject at any examination held by the Board shall be communicated to them in accordance with the rules framed by the Board on payment of the prescribed fee.

CHAPTER XIV.

High School Examination.

1. The following are the subjects prescribed for the High School Examination of the Board:—

COMPULSORY.

- (1) English.
- (2) Mathematics, or (for girls only) History or Geography.
- †(3) (a) History or (b) Geography or (c) (for girls only) Domestic Science, Physiology, Hygiene and Child Study.
- (4) One of the following Modern Indian Languages:—
 - (a) Hindi,
 - (b) Urdu,
 - (c) Marathi,
 - (d) Gujarati,
 - (e) Bengali,
 or
 German or French (only permissible to a candidate whose mother-tongue is other than Hindi, Marathi, Gujarati, Bengali or Urdu).
- ‡(5) Elementary Knowledge of Anatomy and Physiology of the human body and Hygiene.

**Rules for communicating marks, vide regulation 19, chapter XIII of the Board's Regulations.—*

1. Only the total marks obtained by a candidate in each subject will be communicated.

* 2. Any candidate desiring to know the total marks obtained by him in each subject at an examination held by the Board shall send an application to the Secretary together with the prescribed fee of Rs. 3.

3. No refund of fee shall be allowed.

4. Each application should furnish necessary information on each of the following particulars:—

- (a) The name and the year of the examination.
- (b) The name of the candidate.
- (c) His roll number.
- (d) The name of the college or school or the district or State of which he was a resident at the time of examination.
- (e) The name of the examination centre.
- (f) The subjects offered.

†A candidate taking History or Geography under (2) cannot offer the same subject under (3).

‡Prescribed for the Examination of 1943 and subsequent years.

OPTIONAL.

- (1) One of the following Classical Languages.—
Sanskrit, Arabic, Persian and Latin.
- (2) Commerce.
- (3) Physics and Chemistry.
- (4) Agriculture.
- (5) Drawing.
- (6) Manual Training.
- (7) A Modern European Language.
- (8) Metal Work.
- *(9) History or Geography.
- (10) Music.
- (11) Elementary Science (including elementary principles of Physics, Chemistry, Biology, Physiology and Hygiene).

N. B.—Candidates must take up one optional subject for the examination and no candidate will be examined in more than one such subject in addition to the compulsory subjects at one and the same examination; provided that a candidate who has passed the High School Examination of the Board may present himself for examination in any subsequent year in one or more optional subjects without re-examination in the compulsory subjects; and such a candidate shall, if successful, be entitled to have an entry made in certificate already granted to him, certifying in which additional subject or subjects he has passed; and provided further that if he wishes to appear in a subject or subjects which involve practical work, he should produce satisfactory evidence, that he has completed the practical course prescribed for the subject in a school or college recognised by the Board at least upto the High School standard in the subject.

2. A candidate is not entitled to a certificate of having passed the High School Examination unless he qualifies separately in each subject offered by him thereat.

3. Diaries shall be kept by all teachers employed in teaching classes preparing for the High School Examination, showing the work done in class in each subject taught by them, and such diaries shall be inspected by the oral or practical examiners or by such other authorities as the Board may depute.

4. The question papers set and the written answer-books of all candidates at the terminal examinations shall also be subject to inspection in such manner and by such authorities as the Board may direct.

*A candidate taking History or Geography as a compulsory subject either under (2) or (3) cannot offer the same subject as an optional subject.

5. The Head of the institution shall furnish the oral or practical examiner, or such other authority as the Board may appoint, with a list of the candidates undergoing examination in the subject or subjects with which he is concerned, and shall make an entry against each name regarding the proficiency of the candidate as judged by his record therein during the course of study prescribed for the examination.

6. *Candidates for the High School Examination are permitted to answer questions in English, Urdu, Hindi, Marathi in all subjects other than English.

7. Candidates who have passed the Junior Cambridge (Junior Local) Examination in five such subjects (of which one shall be Hindi, Urdu, Marathi or Gujarati and in the case of those candidates whose mother tongue is other than the foregoing Vernaculars, German or French) as are recognised for the High School Examination of the Board, may be admitted to the High School Examination in the academical year following that in which they pass the Junior Cambridge Examination.

CHAPTER XV.

Intermediate Examination.

1. Before entering upon the course of study prescribed for the Intermediate Examination, every candidate shall be required to have passed the Board's High School Examination or to have passed an examination which by regulation is declared equivalent thereto.

*This regulation should be read in the light of the following notes.—

(1) A candidate for the High School Examination may answer questions in English in one or more subjects and in Hindi, Marathi or Urdu in the remaining subjects in which a Vernacular medium is permitted.

(2) The option of using a Vernacular medium of examination has been given in the following subjects only and in the following manner:—

- (a) Sanskrit—through the medium of English, Hindi or Marathi.
- (b) Hindi—through the medium of English or Hindi.
- (c) Arabic, Persian and Urdu—through the medium of English or Urdu.
- (d) History and Geography through the medium of English, Hindi, Urdu or Marathi.
- (e) Agriculture—through the medium of English, Hindi, Urdu or Marathi.
- (f) Mathematics—through the medium of English, Hindi, Urdu or Marathi.
- (g) Domestic Science—through the medium of English, Hindi, Urdu or Marathi.
- (h) Marathi—through the medium of English, or Marathi.
- (i) Music—through the medium of English, Hindi Urdu or Marathi.

(2) The following examinations are declared equivalent to the Board's High School Examination for the purposes of enabling candidates to enter upon the course of study prescribed for the Intermediate Examination :—

- (1) the High School Examination of the Board of High School and Intermediate Education, United Provinces;
- (2) the Martication Examination of any University established by law in India approved for the purpose by the Board (The Martication Examinations of the following Universities are approved by the Board:—Allahabad, Bombay, Calcutta, Madras, Andhra, Patna, *Benares and *Aligarh);
- (3) the School Leaving Certificate Examination of the United Provinces, or of another province, provided this examination is accepted as equivalent to Martication by the Universities established by law in that province;
- (4) the Cambridge School Cartificate, (formerly called Senior Local) Examination, provided a candidate has passed in five of such subjects as are recognized for the High School Examination of the Board of High School and Intermediate Education, Rajputana (including Ajmer-Merwara), Central India and Gwalior;
- (5) the Diploma Examination of the Chiefs' Colleges;
- (6) the High School Examination for European Schools in the Central Provinces and in other provinces;
- (7) the High School Certificate Examination of the Board of the High School Education, Central Provinces;
- (8) the Anglo-Vernacular High School and the English High School Examinations of Burma;
- (9) the London University Martication Examination;
- (10) the English School-Leaving Certificate Examination of the Travancore State;

*By Martication Examinations of the Benares Hindu and the Aligarh Muslim Universities, the Admission Examination of the former and the High School Examination of the latter are meant.

- (11) the High School-Leaving Certificate Examination of Hyderabad (Deccan), provided a candidate has passed in class I or class II,
- (12) the Secondary School-Leaving Certificate Examination of Mysore, provided a candidate has been declared eligible for admission to a University course;
- (13) the Diploma Examination of the Royal Indian Military College, Dehra Dun, so long as the syllabus and the standard of the examination continue to be the same as those of the examinations recognized in the foregoing clause (5);
- (14) the High School Examination of the Board of Secondary Education, Delhi, provided a candidate has passed the examination in five full subjects excluding (except in the case of women candidates) Physiology and Hygiene and Domestic Science;
- (15) The Martication Examination of the Punjab University, provided the candidate has passed the examination in full five subjects.

3. No candidate shall be admitted to the Intermediate Examination unless two academical years shall have elapsed since the date of his passing the High School or an equivalent examination.

Provided that candidates, who have passed the Cambridge School Certificate (Senior Local) Examination in five such subjects as are recognized for the High School Examination of the Board, may be admitted to the Intermediate Examination in the academical year following that in which they pass the Cambridge School Certificate Examination.

4. Any student who, after passing the High School Examination of the Board or an examination recognised by the Board as equivalent thereto, has kept one academical year for the Intermediate Examination at a college affiliated to the Board of High School and Intermediate Education, United Provinces, or the University of Calcutta, Madras, Andhra, Bombay, Patna, Benares, the Punjab, Nagpur, Aligarh, Delhi or Mysore and been duly promoted to the Second Year Intermediate class in that college, may be allowed to migrate to the Second Year class of an Intermediate college within the jurisdiction of this Board, subject to the following conditions:—

- (1) That he will study the same subjects in the second year class of the college to which he migrates in this Board's area that he studied in the Intermediate class of the college affiliated to the above Board or University from which he migrates.

N. B.—This clause shall not authorise any college to which a student migrates in the Board's area to teach subjects in which it is not recognized by the Board.

- (2) That he produces a certificate from the Principal of a college affiliated to the above Board or the University that the corresponding year has been duly kept according to the regulations in force at the above Board or University from which he migrates.

- (3) That the said Principal has no objection to his transfer.

5. Every candidate for the Intermediate Examination shall be examined in English and any three of the following subjects:—

- (1) Mathematics.
- (2) Chemistry.
- (3) Physics.
- (4) Biology.
- (5) Drawing.
- (6) Economics.
- (7) Civics.
- (8) History and Allied Geography.
- (9) Histories of Greece and Rome and Allied Geography.
- (10) Geography.
- (11) Logic.
- (12) A Modern Indian Language (Urdu, Hindi, Marathi or Gujarati), or a Modern European Language (German or French).
- (13) A Classical Language, viz. Sanskrit, Arabic, Persian, Latin, Greek or Hebrew.

(14) *Physiology, Hygiene, and Child Study (for girls only).

(15) Music.

6. A candidate who has passed the Intermediate Examination of the Board may appear at a subsequent Intermediate Examination or Examinations conducted by the Board in one or more optional subjects in which he has not previously passed the Intermediate Examination, provided that in the case of a subject for which a practical work or a practical examination is prescribed, he produces satisfactory evidence to the Board that he has completed the practical course prescribed for the subject in a college recognised by the Board up to the Intermediate Examination in that subject.

CHAPTER XVI.

Intermediate Examination in Commerce.

1. Every candidate for admission to the Intermediate Examination in Commerce shall be required to have passed the Board's High School Examination or an examination † equivalent thereto and to have, since the passing of this examination, prosecuted a regular course of study for not less than two academical years at an institution recognized by the Board for the Intermediate Examination in Commerce.

2. ‡Inspecting officers of the Education Department of the States and British Areas under the jurisdiction of the Board and teachers in schools and colleges recognized by the Board may be admitted to this examination as private candidates by special permission of the Board, provided that by the date of the examination not less than two academical years shall have elapsed since the date of their passing the High School Examination or an examination equivalent thereto.

*A special subject intended to prepare girls either for the teaching profession or for domestic life.

† See regulation 2, chapter XV.

‡Failed candidates of the Intermediate Examination in Commerce may also be admitted to a subsequent examination as private candidates under regulation 11, chapter XIII.

2 A. Candidates who have passed the High School Examination of the Board or an equivalent examination may present themselves for examination in Steno-typing second paper (Type-writing test) of the Intermediate Examination in Commerce in any subsequent year as private candidates on payment of a fee of Rs 8/- . The minimum pass marks in this paper shall be 17 out of a maximum of 50. Such candidates, if successful, shall be awarded a certificate of having passed the Intermediate Examination in Commerce in Type-writing only.

3. The following are the subjects of examination. These may be arranged in alternative groups in such manner and with such additions and alterations as the Board may from time to time decide:—

COMPULSORY.

- (1) English.
- (2) Book-Keeping and Accountancy.
- (3) Business Methods and Correspondence.
- (4) (a) Elementary Economics.
(b) Commercial Geography.

OPTIONAL.

One of the following.—

- (1) Steno-typing (shorthand and type-writing).
- (2) Elements of Banking.
- (3) Elements of Industrial Organization
- (4) Mathematics.

4. Any candidate who has passed the Intermediate Examination in Commerce of the Board may appear at any subsequent Intermediate Examination in Commerce conducted by the Board in any subject in which he has not previously passed the Intermediate Examination in Commerce.

CHAPTER XVI A.

Teachers' Training Certificate Examination.

1. Before entering upon the courses of study prescribed for the Certificate of Teachers' Training, every candidate shall be required to have passed the Board's Intermediate Examination or an examination which by regulation is declared equivalent thereto or a higher examination.

2. The courses of study shall be of one academical year.

3. Institutions for Teachers' Training shall be separate from institutions preparing for the Intermediate Examination.

4. Wherever there is an institution for training teachers, there shall be at least one practising school under the control of the Head of the Education Department which controls the training institution.

5. A candidate who fails in Theory or in Practice or in both at the Teachers' Training Certificate Examination of the Board from a recognised institution, may be re-admitted to any subsequent examination in Theory or in Practice or in both held within a period of three years from the date of his first appearance at the examination, without attending a further course at a college, and if successful in this examination, shall be awarded a certificate provided that a candidate failing in practice shall be allowed this concession only if he has served as a teacher for six months continuously in a recognised school in the session immediately preceding the examination in which he wishes to appear. Applications of all such candidates shall be forwarded by the Principals of the colleges from which they failed.

MAXIMUM AND MINIMUM MARKS ASSIGNED
TO THE VARIOUS SUBJECTS FOR THE
EXAMINATIONS OF 1941.

High School Examination.

Maximum marks ... 150 in English and 100 in every other subject.

Minimum pass marks ... 50 in English and 33 in every other subject.

Intermediate Examination.

Maximum marks ... 150 in English and 100 in every other subject.

Minimum pass marks ... 50 in English and 33 in every other subject.

Intermediate Examination in Commerce.

Maximum marks ... 100 in each subject.

Minimum pass marks ... 33 in each subject.

Teachers' Training Certificate Examination.**Practical.**

Maximum marks ... 200.

Minimum pass marks ... 80.

Theoretical.

Maximum marks ... 300.

Minimum pass marks ... 99.

Distinction and Divisions in the High School, Intermediate and Intermediate in Commerce Examinations.**Distinction.**

Minimum marks required ... 75 per cent of the aggregate marks in a subject.

Divisions.

Minimum pass marks required

for division I ... 60 per cent of the aggregate.

Minimum pass marks required

for division II ... 45 per cent of the aggregate.

Minimum pass marks required

for division III ... 33 per cent of the aggregate.

Divisions in the Teachers' Training Certificate Examination.**Practical.**

Minimum pass marks required

for division I ... 65 per cent.

Minimum pass marks required

for division II ... 50 per cent.

Minimum pass marks required

for division III ... 40 per cent.

Theoretical.

Minimum pass marks required

for division I ... 60 per cent of the aggregate.

Minimum pass marks required

for division II ... 45 per cent of the aggregate.

Minimum pass marks required

for division III ... 33 per cent of the aggregate.

Text-Books and Syllabus

FOR

THE EXAMINATIONS OF THE BOARD FOR 1941.

HIGH SCHOOL EXAMINATION.

A—COMPULSORY SUBJECTS.

I—ENGLISH.

Three papers each of three hours and each carrying 50 marks will be set.

The first paper will contain questions on the Prose and Poetry courses prescribed for intensive study. Each course will carry approximately 25 marks. The second paper will contain questions on the subject-matter of the books recommended for Rapid Reading, on Applied Grammar, and on an Unseen Prose passage.

The questions on the course for Rapid Reading will carry approximately 25 marks, and will be framed with a view to finding out whether the candidate has read the course intelligently. The questions on Applied Grammar will carry approximately 15 marks and will include parsing, analysis, conversion of passages from direct into indirect form of narration and *vice versa*, correction of grammatical mistakes, punctuation, questions testing the scholar's knowledge of the uses of the moods and tenses, especially emphasising the use of the future and the past perfect tenses, the use of the articles, the use of appropriate prepositions. The unseen passage will carry 10 marks and will be of the standard of the books recommended for Rapid Reading. Candidates may be asked to summarise it, to explain certain parts of it and to answer questions on its contents.

The third paper will be on composition (30 marks) and translation from Vernacular into English (20 marks). In composition candidates will be required :

- (a) to distinguish the meanings of common words often confused by exemplifying their use ;
- (b) to write a precis of a given passage ;
- (c) to write a simple descriptive or narrative piece of English composition of not less than 300 and not more than 500 words.

The translation section of the paper will contain :

- (a) about ten sentences in Vernacular to be translated into English which will be chosen on account of the contrast between the English and the Vernacular idiom ;
- (b) a continuous passage in Vernacular (about but not exceeding 10 lines of print) to be translated into English.

Note—Attention of teachers is drawn to the Oxford Course in English Composition (Oxford University Press), to Matriculation English by Tipping & Menzies (Macmillan & Co.) and Suggestions for the Teaching of English Spelling in India by H. R. Bhatia (Oxford University Press).

In the case of candidates who offer German or French in lieu of a modern Indian Language, the third paper will consist of an essay together with questions on English Composition.

The text-books prescribed are as follows:—

A—For detailed study :

The following selections from the text-books published by the Board (Indian Press, Allahabad) :—

Poetry :—

1. The Sleeping Palace.
2. The Sleeping Beauty.
3. The Arrival.
4. The Revival.
5. The Departure.
6. The Upright Man.
7. The Battle of Hohenlinden.
8. The Burial of Sir John Moore.
9. The Loss of the Birkenhead.
10. Life of my Life (from the Gitanjali).

11. The Vision of Felix.
12. My Lost Youth.
13. Hymn to the Night.
14. By the Sea.
15. When I Bring to You (from the Gitanjali).
16. Leave this Chanting (from the Gitanjali).
17. The Battle of Blenheim.

Prose.—

1. The Story of King Arthur.
2. The Child's Dream of a Star.
3. The Miraculous Pitcher.
4. The Three Golden Apples.
5. The Cabuliwallah.
6. The Home Coming.
7. The Pygmies.
8. Solon and Cræsus.
9. Discipline.
10. Oliver is taken for a thief.
11. The Saracen and the Crusader.
12. The Two Friends of Syracuse.
13. The Story of Richard Double Dick.
14. On Method.
15. Effects of an Earthquake.
16. The Voyage.

Exploring the Frontiers (Blackie & Sons).

B.—For Rapid Reading:

- (1) Noble Lives by Phyllis Wragge (Nelson).
- (2) Tales of Indian Cavaliers by Kincaid (Macmillan & Co.)
- (3) The Adventures of Hajji Baba of Ispahan by James Moore (Macmillan & Co.)—abridged edition for schools, 1931.

II—MATHEMATICS.

There will be two papers, each of three hours—one in Arithmetic and Algebra and the other in Geometry and Mensuration.

*Syllabus.***(1) Arithmetic and Algebra.**

Arithmetic—The four fundamental operations, (simple and compound); Prime and composite numbers; average; Fractions (Decimal, Vulgar and recurring); G.C.M.; and L.C.M.; Square root; Cube root by factors; areas; volumes of rectangular solids; Interest (simple and compound); Present Worth and Discount; Profit and Loss; Stocks and Shares; Ratio and Proportion; Problems on Alligation; percentages and Work and Speed.

Algebra—The Four Fundamental Operations; Factors; Simple Equations of one or more variables; H.C.F.; L.C.M.; Fractions; Indices; Easy Surds; Square Root; Quadratic Equations with one variable and the relation between their roots and co-efficients; Problems; Ratio and Proportion; Graphs of Statistics; Graphical Solutions of Simultaneous equations of first degree.

N. B.—Candidates will be provided with squared paper, if necessary.

(2) Geometry and Mensuration.

The course includes theoretical, practical and numerical Geometry, and every candidate will be expected to answer questions in both branches of the subject. The questions on practical geometry will be set on the constructions contained in schedule A, together with easy extensions of them. All figures should be drawn accurately; for which purpose every candidate should provide himself with a graduated scale, a pair of set squares, a protractor, a compass and a hard pencil. The questions on theoretical geometry will consist of theorems and problems contained in the schedules A and B, together with easy extensions and deductions with numerical illustrations. Any proof of a proposition will be accepted which appears to the examiners to form part of a systematic treatment of the subject; the order in which the theorems are stated in schedule B is not imposed as the sequence of their treatment. In the proof of the theorems hypothetical constructions will be permitted.

N. B.—Candidates will be provided with squared paper, if necessary.

SCHEDULE A.

Bisection of angles and of straight lines.

Construction of perpendiculars to straight lines.

Construction of an angle equal to a given angle.

Construction of parallels to a given straight line.

Simple cases of the construction from sufficient data of triangles and quadrilaterals.

Division of straight lines into a given number of equal parts.

Construction of a triangle equal in area to a given polygon.

Construction of tangents to a circle and of common tangents to two circles.

Simple cases of the construction of circles from sufficient data.

Construction of a rectangle equal to a given polygon.

Construction of a rectangle on a given base equal in area to a given rectangle.

Construction of a square equal to a given rectangle.

Construction of a rectangle of given area the sum or difference of whose sides is given.

Construction of a fourth proportional to three given straight lines and a mean proportional to two given straight lines.

Construction of regular figures of 3, 4, 6 or 8 sides in or about a given circle.

Mensuration of triangles and simple rectilineal figures, finding their area by means of field book; application of formulæ for length of circumference and for area of a circle in terms of its radius.

SCHEDULE B.

Angles at a point.

If a straight line stands on another straight line, the sum of the two angles so formed is equal to two right angles; and the converse,

If two straight lines intersect, the vertically opposite angles are equal.

Parallel straight lines.

When a straight line cuts two other straight lines, if—

- (i) a pair of alternate angles are equal or
- (ii) a pair of corresponding angles are equal or
- (iii) a pair of interior angles on the same side of the cutting line are together equal to two right angles, then the two straight lines are parallel; and the converse.

Straight lines which are parallel to the same straight line are parallel to one another.

Triangle and rectilineal figures.

The sum of the angles of a triangle is equal to two right angles.

If the sides of a convex polygon are produced in order, the sum of the angles so formed is equal to four right angles.

If two triangles have two sides of the one equal to two sides of the other, each to each, and also the angles contained by these sides equal, the triangles are congruent.

If two triangles have two angles of the one equal to two angles of the other, each to each, and also one side of the one equal to the corresponding side of the other, the triangles are congruent.

If two sides of a triangle are equal, the angles opposite to these sides are equal; and the converse.

If two triangles have the three sides of the one equal to the three sides of the other, each to each, the triangles are congruent.

If two right-angled triangles have their hypotenuses equal and one side of the one equal to one side of the other, the triangles are congruent.

If two sides of a triangle are unequal, the greater side has the greater angle opposite to it; and the converse.

Of all the straight lines that can be drawn to a given straight line from a given point outside it, the perpendicular is the shortest.

The opposite sides and angles of a parallelogram are equal, each diagonal bisects the parallelogram and the diagonals bisect one another.

If there are three or more parallel straight lines and the intercepts made by them on any straight line that cuts them are equal, then the corresponding intercepts on any other straight line that cuts them are also equal.

Areas.

Parallelograms on the same or equal bases and of the same altitude are equal in area.

Triangles on the same or equal bases and of the same altitude are equal in area.

Equal triangles on the same or equal bases are of the same altitude.

Illustrations and explanations of the Geometrical theorems corresponding to the following algebraical identities:—

$$k(a+b+c+\dots) = ka + kb + kc + \dots$$

$$(a+b)^2 = a^2 + 2ab + b^2.$$

$$(a-b)^2 = a^2 - 2ab + b^2.$$

$$a^2 - b^2 = (a+b)(a-b).$$

The square on a side of a triangle is greater than, equal to, or less than the sum of the squares on the other two sides according as the angle contained by these sides is obtuse, right or acute. The difference in the case of inequality is twice the rectangle contained by one of the two sides and the projection on it of the other.

In any triangle the sum of the squares on two sides is equal to twice the square on half the base together with twice the square on the median which bisects the base.

Loci.

The locus of a point which is equidistant from two fixed

points is the perpendicular bisector of the straight line joining the two fixed points.

The locus of a point which is equidistant from two intersecting straight lines consists of the pair of straight lines which bisect the angles between the two given lines.

The circle.

A straight line drawn from the centre of a circle to bisect a chord which is not the diameter is at right angles to the chord; conversely, the perpendicular to a chord from the centre bisects the chord.

There is one circle and one only which passes through three given points not in a straight line.

In equal circles (or in the same circle), (i) if two arcs subtend equal angles at the centres, they are equal; (ii) conversely, if two arcs are equal, they subtend equal angles at the centres.

In equal circles (or in the same circle), (i) if two chords are equal they cut off equal arcs; (ii) conversely, if two arcs are equal, the chords of the arcs are equal.

Equal chords in a circle are equidistant from the centre; and the converse.

The tangent at any point of a circle and the radius through the point are perpendicular to one another.

If two circles touch, the point of contact lies on the straight line through the centres.

The angle which an arc of a circle subtends at the centre is double that which it subtends at any point on the remaining part of the circumference.

Angles in the same segment of a circle are equal, and if the line joining two points subtends equal angles at two other points on the same side of it, the four points lie on a circle.

The angle in a semi-circle is a right angle, the angle in a segment greater than a semi-circle is less than a right angle, and the angle in a segment less than a semi-circle is greater than a right angle.

The opposite angles of any quadrilateral inscribed in a circle are supplementary; and the converse.

If a straight line touches a circle and from the point of contact a chord be drawn, the angles which this chord makes with the tangent are equal to the angles in the alternate segments.

If two chords of a circle intersect either inside or outside the circle the rectangle contained by the parts of the one is equal to the rectangle contained by the parts of the other.

A straight line parallel to the base of a triangle divides the sides proportionally.

Equiangular triangles have their sides proportional.

Two triangles which have their sides proportional are equiangular.

If two triangles have one angle of one equal to one angle of the other and the sides about these proportional, they are similar.

The bisectors of any angle of a triangle divide the opposite side in the same ratio as the sides containing the angle.

The following books are suggested:—

For Arithmetic.—

1. Senior Practical Arithmetic by Dr. P. L. Srivastava (Indian Press, Allahabad).
2. New Arithmetic by Workman and Sime (Gulab Singh and Sons, Lahore).
3. High School Arithmetic by Vaidya and Mathur (Gwalior and Rajputana Publishing Co., Gwalior).
4. New High School Arithmetic by B. Upadhyaya (Bhargava and Sons, Chandausi).
5. Arithmetic by Fakir Chand Rastogi (L. N. Agarwal, Agra).
6. High School Arithmetic by R. K. Bhargava (Educational Publishers, Ltd., Ajmer).

For Algebra.—

1. A New High School Algebra by A. S. Sinha (Macmillan & Co.).

2. High School Algebra by M. A. Butt (Gulab Singh & Sons, Lahore).
3. Algebra by Athavale (Macmillan & Co., Bombay).
4. Students' Elementary Algebra by S. K. Abhyankar (V. K. Abhyankar, Indore).
5. Longmans' Matriculation Algebra (Longmans Green & Co.).
6. The New Method Algebra by Bose and Naquvi, (Indian Press, Allahabad).

For Geometry and Mensuration.—

1. Shorter School Geometry by Hall and Stevens (Macmillan & Co.).
2. Longmans' Matriculation Geometry.
3. A New Sequence Geometry Parts I, II & III by Gray and Smith (The Grant Educational Coy.).
4. High School Geometry, Parts I and II by R. K. Bhargava (Educational Publishers Ltd., Ajmer).
5. Mensuration by S. R. Mital and K. C. Verma (L. N. Agarwal, Agra).

III—HISTORY.

There will be two papers each of three hours.—

(i) Indian History and Allied Geography, and

(ii) English History and Allied Geography.

N. B.—Candidates are expected to draw freehand maps of *India* and of *Great Britain and Ireland*.

Paper I—Indian History and Allied Geography.

Indian History in outline from the earliest times to 1919.

The following syllabus is prescribed :—

(i) The influence of Geography on Indian History.

(ii) Ancient India till the 7th Century A. D.

The Dravidians, the Aryan immigration, Vedic and Epic cultures, Life and Teachings of Buddha,

The Mauryas, Culture of the Maurya period, Sungas, Kanvas, Andhras, Yuechis, Kushans (Kanishka), Guptas (Samudragupta, Chandragupta), Gupta Culture, Harsha.

(iii) Medieval India from the 7th Century to the close of the 18th Century—

Origin of the Rajputs, the Rajput kingdoms of Northern India, Kingdoms of the Deccan and of the Far South. Life and teachings of Muhammad, The Arab invasion, The Turks and their Kingdoms, The early Sultanate of Delhi, Slave Kings, Khiljis and Tughlaks, Mongol invasions, The break up of the Sultanate, Invasion of Timur, Provincial dynasties, Indo-Islamic culture, Sayads and Lodis, Babar and Humayun, Sher-Shah, Akbar, Jehangir, Shah-Jahan, Aurangzeb, Successors of Aurangzeb, The break up of the Mughal Empire.

Marathas—Shivaji, The struggle with the Mughals, The Maratha confederacy, The Peshwas up to 1761.

Sikhs—Guru Nanak and Guru Govind Singh.

Early European settlements—1600-1708.

Culture of the period—Art and Literature.

(iv) Modern India till 1919.

Struggle of the European powers—

The French and the British.

Struggle between the East India Company and Indian Princes (1756-1774), Conquest of Bengal.

Regulating Act, Internal difficulties, Wars with the Indian Rulers—Warren Hastings.

The Permanent Settlement, Cornwallis, The Subsidiary Alliance System, The rivalry of the French, Wars and the Expansion of British territory—Wellesley.

Embassies to Asiatic powers—Minto.

The consolidation of British power—Marquess of Hastings.

Reforms—Bentinck. Afghan Wars—Auckland and Ellenborough. The Punjab War—Hardinge. Completion of British Dominion—Dalhousie.

India under the Crown (1857-1919).

Wars and Expansion (Afghanistan, Burma), Internal developments, Reforms—1861, 1892, 1909, 1919.

Local Self-Government. Educational and general progress.

The following books are recommended to indicate the scope and standard of knowledge required:—

1. Sen and Ray Choudhury : Groundwork of Indian History, (Chuckervertty Chatterjee & Co., Ltd., Calcutta) (English Edition).
2. Modak—History of India (Marathi Edition).
3. Tara Chand—Short History of the Indian People. (Macmillan & Co.).
4. An Atlas of Indian History by E. W. Green (Macmillan & Co.).

Paper II—English History and Allied Geography.

English History in outline from 1066 to 1919 A. D.

The following syllabus is prescribed:—

- (i) The influence of Geography on English History.
- (ii) History of England 1066-1919—
Introductory to 1066.

(a) The Norman conquest and settlement.

(b) The Anjevins—Plantagenets and Yorkists.

Relations with the church ; Magna Carta and Growth of Parliament ; The Hundred Years War ; The Wars of Roses ; Relations with Scotland.

Note—What is required is a general idea of the pre-tudor period as would help the understanding of the growth of Parliament. History of events and personalities is not to be emphasised.

The Tudors, 1485—1603 Monarchy and Parliament.
The Reformation, Relations with European power, Growth of colonial and commercial enterprise.

The early Stuarts, 1603-1649—Monarchy and Parliament, Civil War, Religion (Puritans and Anglicans), Beginnings of commercial and colonial expansion.

Commonwealth, 1649—1660, Cromwell, Scotland and Ireland, Navigation Laws, The Puritans.

The later Stuarts, 1660-1714—Relations with European powers (France and Holland), Colonial and Commercial expansion. The Revolution of 1688.

The Bill of Rights, The Act of Settlement, The Union with Scotland, The Affairs of Ireland, Relations with European powers.

The early Hanoverians, 1714-1760, Walpole, The Cabinet, Pitt, European Wars, Colonial expansion.

The later Hanoverians, 1760-1830, The Industrial Revolution, Wars with France, Ireland, American independence.

The Rise of Democracy—1830-1885, Parliamentary Reforms, 1832, 1867, 1885, Imperial developments.

1885-1919, Relations with European powers, Internal developments, The Great War, The representation of the Peoples Act 1918.

The following books are recommended to indicate the scope and standard of knowledge required :—

1. Guest : Outlines of British History (Oxford University Press).
2. Bharve : History of England in Marathi (Macmillan & Co.).

3. Bose Mullick : A Short History of England (Revised edition) (Gaya Prasad & Sons, Agra).
4. D. B. Baijal : A Short History of England (Hindi and Urdu editions) (The City Book-House, Cawnpore).
5. Gardiner : A School Atlas of English History (Longmans Green & Co., Bombay).

GEOGRAPHY.

There will be two papers, each of three hours' duration as follows :—

Paper I—General Geography of the world outside of India (Sections I and II of the Syllabus).

Paper II—India and its world relations (Section III of the Syllabus).

Note.—The work should show that outdoor Geographical studies and meteorological observations have formed a feature of the course.

Syllabus.

1. (a) Shape of the Earth : rotation and revolution ; duration of day and night; the seasons. Latitude and Longitude.
- (b) Outlines of the relief and drainage of the lands, and study of the chief land forms, the Hydrosphere, Ocean currents, Waves and the Phenomena of tides.
- (c) The atmosphere. Weather and Climate. Study and measurement of temperature, pressure and rainfall. Seasonal distribution over the globe of temperature, pressure and rainfall, study of wind-belts, Ferrel's Law, Buys Ballot's Law, cyclones and anticyclones. Chief types of climates.
- (d) Practical exercises based on simple contour maps.
- II. (a) The world treated according to its major natural regions. The knowledge of the principles of Physical Geography and of the Geographical distributions should be applied to the study *in outline* of the major natural regions of the world.

- (b) The influence of his environment on man, his activities, his industries; exchange of commodities; communications, growth of towns.

III. Geography of India in fuller detail. Its relations—physical and climatic with contiguous areas; and its commercial relations with the world in general.

Books recommended for students' use.—

(a) (English editions).—

1. India, World and Empire by H. Pickles (Oxford University Press).
2. Morrison—Indian Empire (Macmillan).
3. High School Geography by Gense (Macmillan).

(b) (Vernacular Editions) —

1. Bhu-mandal—Surya Deo and R. P. Bhargava (Educational Publishers Ltd., Ajmer) (Hindi and Urdu Editions).
2. Bharat Varsh Ka Bhugol—Prakash Chand Agarwal (Scindia Book Depot, Lashkar Gwalior) (Hindi and Urdu Editions).
3. Bharat Varsh Ka Bhugal by R. N. Misra (Bhugol Press, Allahabad) (Hindi Edition).
4. **आमचें जग** Book IV (World) } Marathi Editions.
5. **आमचें जग** Book V (India) }
by Parulkar and Jani (Macmillan).

(c) Atlases.—

1. Bartholomew : Indian School Atlas (Oxford).
2. Taj Mahal Atlas (Philip).

Books recommended for reference of teachers.—

Brooks : The World (London University Press).

Unstead and Taylor : Essentials of World Geography (Philip).

Chisholm : Smaller Commercial Geography (Longmans).

Lyde : Man and His Markets (Macmillan).

- Herbertson : Man and His Work (Black).
 Davis : Elementary Physical Geography (Ginn).
 Skeat : Principles of Geography (Oxford).
 Mill : The Realm of nature (Murray).
 Mackay : The Oxford Picture Geographies (Oxford).
 Lands and their Stories. Book I to VII (Blackie).
 Black's Travel Pictures (A. & C. Black; Agents—Macmillan & Co.).
 Gense : High School Geography (Macmillan).
 Pickles : India, World and Empire (Milford).
 DeMartonne (Translated by E. Laborde).
 Elementary Analysis of Physical Geography by F. G. French. (Oxford University Press).
 Our World by Morrison (Macmillan).
 The World by Stamp (Longmans).
 Earth Lore : A Physical Geography (A. K. Johnston Ltd.).
 Hardie : Plant Geography (Oxford University Press).
 Newbigin : Animal Geography (Oxford University Press).
 Newbigin : Man and his conquest of Nature (A. & C. Black. Agents-Macmillan and Co., Ltd. Bombay).
 Black's Geography Pictures, sets 1 to 8 (1sh. 6d. per set, from Messrs. Macmillan & Co.).

IV—MODERN INDIAN LANGUAGES.

Hindi.

There will be two papers each of three hours duration. The first paper will be set on Prose-Text, Grammar, Supplementary Reading and Translation of English into Vernacular of a simple descriptive piece. The second paper will be set on Poetry-Text, Alankars, Metre and Essay Writing. About ten per cent of the total marks will be reserved for punctuation and spelling in each paper.

Books for Supplementary Reading are not intended to be taught in the class but are to be studied by the students under

the guidance of teachers. In criticism, views supported by proper arguments will be considered more creditable.

Paper I—

(a) Prose Text.—

The following selections from गद्य-रत्न-माला Gadya-Ratna-Mala) published by the Board (Educational Publishers Ltd., Ajmer):—

SHORT STORIES.

- (1) प्रसाद—पुरस्कार.

DRAMATIC PIECES.

- (1) भारतेन्दु हरिश्चन्द्र—भारत दुर्दशा.
(2) मिलिन्द—एक क्षलक.

ESSAYS.

- (1) बालकृष्ण भट्ट—संसार-महा-नाट्यशाला, कल्पनाशक्ति.
(2) प्रतापनारायण मिश्र—आप, धोखा.
(3) भारतेन्दु-हरिश्चन्द्र — एक अद्भुत अपूर्व स्वप्न.
(4) बाल मुकुन्द गुप्त—आशीर्वाद.
(5) रामचन्द्र वर्मा — अग्नि का आविष्कार.
(6) महावीरप्रसाद द्विवेदी—द्रौपदी, भीम और युधिष्ठिर के भाषण.
(7) पद्मसिंह शर्मा—पं० सत्यनारायण कविरत्न

PROSE-POETRY (गद्य-काव्य).

- (1) रायकृष्णदास — सागर और मेघ.
(2) वियोगी हरि—चित्रांकण, तीर्थ यात्रा.

CRITICISM (आलोचना).

- (1) इयामसुन्दर दास — साहित्य की आलोचना.
(2) पदुमलाल बक्शी—उपन्यास रहस्य.

MISCELLANEOUS.

- (1) रावल—अजन्ता का कला-मण्डप.
(2) हरि शंकर शर्मा—विज्ञानाचार्य एडिसन.
(3) रामचन्द्र टण्डन—भीमती सरोजिनी नायक.

(b) Grammar:—

Parsing, idioms and phrases, compounds, karakas,
Sandhis and agreement of verbs and compound verbs.

(c) Books for Supplementary Reading.—

- (1) **जय-पराजय** (Jay Parajay) by Ashk (Motilal Banarsidas, Lahore).
- (2) **उज्ज्वल-रत्न** (Ujjwal Ratna) by S. S. Saksena (N. M. Bhatnagar and Brothers, Udaipur). Price Re. 1/-
- (3) **विज्ञान-विनोद** (Vigyan Vinod) by Gulab Rai (Gaya Prasad and Sons, Agra), first eighteen lessons. Price Re. 1/-

Paper II.—

(a) Poetry Text.—

The following selections from **पद्य-रत्न-माला** (Padya-Ratna-Mala) published by the Board (Educational Publishers Ltd, Ajmer):—

- (1) **कबीर—साखी**, कबीर के पद.
- (2) **सूरदास** Padas selected from **विनय वाणी**, **बाल-लीला**, **कालिय मर्दन**, **उद्धव का व्रज-गमन**, **भ्रमर-गीत**.
- (3) Selected Padas of **अष्ट-छाप** Poets.
- (4) **तुलसीदास**. (i) सन्त और असन्त. (ii) राम बनगमन-वर्णन.
- (5) **मीराबाई**—Selected Padas.
- (6) **केशव—हनुमान का लङ्का-गमन**.
- (7) **रसखान—प्रेमवाटिका** (selected verses).
- (8) **बिहारी के दोहे**.
- (9) **भूषण—काली कपर्दिनी**, **छत्रशाल की तलवार**, **शिवाजी की प्रशंसा**.
- (10) **भारतेन्दु-हरिश्चन्द्र—गंगा-गरिमा**, वह छवि, **प्रेम-महिमा** and **यमुना-छवि** वर्णन.
- (11) **रत्नाकर—कलकाशी**.
- (12) **अयोध्यासिंह उपाध्याय—प्रातःकाल वर्णन**.
- (13) **मैथिलीशरण गुप्त** selected poems.

- (14) रामनरेश त्रिपाठी—प्रकृति-वर्णन, कहाँ ?, जागरण.
 (15) सिधारामशरण गुप्त—एक फूल की चाह.
 (b) Alankars.—अनुप्रास, यमक, श्लेष, उपमा, रूपक, उत्प्रेक्षा, अनन्वय, अन्योक्ति और दृष्टान्त.
 (c) Metres.—चौपाई, चौपई, दोहा, सोरठा, गीतिका, हरिगीतिका, द्रुतविलम्बित, घनाक्षरी

Books recommended for reference.—

- (1) अभिनव-हिन्दी-व्याकरण (Abhinava Hindi Vyakaran) by A. P. Vajpai (Upendra Narayan Vajpai, Calcutta).
- (2) हिन्दी-रत्नाकर (Hindi Ratnakar) by S. S. Gupta (Laxmi Narayan Agarwal, Agra).
- (3) बाल शब्द-सागर (Bal Shabda Sagar) by S. S. Das (Indian Press, Allahabad) Price Rs. 2/-.
- (4) आधुनिक हिन्दी व्याकरण (Adhunik Hindi Vyakarana) by G.C. Sharma (Laxmi Narain Agarwala, Agra).
- (5) रचना-विधान (Rachna Vidhana) by Beni Prasad Misra (Nawal Kishore Press, Lucknow).
- (6) काव्यामृतबिन्दु (Kavyamrita Bindu) by L. C. Raina (Messrs Raina Brothers, Kotah).

Urdu.

There will be two papers, each of three hours. One paper will be set in Prose Text and Unseen and the other on Poetry-Text, Supplementary Reading and Composition. Grammatical questions will be set in both the papers. The ability of the candidates to read Shikast will be tested by means of a paper set for the purpose.

Paper I—(a) Prose Text.—

کھیابان ادا ب حصہ نثر (Khiyaban-i-Adab, Hissa-i-Nasr) by Agha Mohd. Ashraf, M. A., of St. Stephen's College, Delhi. Publishers—S. Chand and Company, Chandni Chowk, Delhi.

or

ایار نسر (Ayar-i-Nasr), Published by University Book Depot, Agra.

(b) Prose Supplementary Reading—One of the following groups:—

- (i) { (1) **ایجادات و انکشافات** (Ijadat-o-Inkishafat) by Piarey Lal Shakir. (Ram Narain Lal, Allahabad).
 (2) **دنیا کے راستے** (Dunya-ke-Rastey) by Professor Saghir Ali, M. A. (Dutt Brothers, Ajmer). Price Re. 1/-.

or

- (ii) { (3) **ساک مضامین** (Silk-i-Mazamin), (Educational Publishers, Chandausi).
 (4) **ایجادات سائنس** (Ejadat-e Science) by Moulvi Tahire Farruqi (Gaya Prasad & Sons, Agra).

or

- (iii) { (5) **آلام حیات** (Alam-i-Hayat) by Makhmur Akbarabadi, deleting story no. 2, viz. "Bintul Bahr" (Lakshmi Narain Agarwal, Agra).
 (6) **معلومات عامہ** (Malumat-i-Amma) (S. Chand and Co., Delhi).

(c) Grammar:—

قواعد اردو (Qwaid-i-Urdu) by Professor Hamidullah Khan Yusufzai (Nawal Kishore Press, Lucknow and Dutt Brothers, Ajmer).

or

خزینۃ القواعد (Khazinat-ul-Qawaid) by Professor Zamin Ali (Indian Press, Allahabad).

Paper II—(a) Poetry Text.—

خیابان ادب حصہ نظم (Khiyaban-i-Adab, Hissa-i-Nazm) by Agha Mohd. Ashraf, M. A., of St. Stephen's College, Delhi (Publishers—S. Chand and Company, Chandni Chowk, Delhi).

or

ایار نظم (Ayar-i-Nazm) by Professor Hamid Hasan Qadri (Lakshmi Narayan Agarwal, Agra).

(b) Poetry Supplementary Reading.—

کلام الملوك (Kalam-ul-Mulook) by Professor Hamidullah
Khan Yusufzai of Government College, Ajmer
(Indian Press, Allahabad or Dutt Brothers, Ajmer).

or

سو شعر کا سیٹ (1) حسرت مرہانی (2) جوش ملیح آبادی
Jama-e-Milya, Delhi. Price 4 annas each.

Paper-Shikast :—

جدید خط شکست (Jadid Khat-i-Shikast) by Prof. Syed
Zamin Ali, Allahabad (Indian Press, Allahabad).

Marathi.

There will be two papers of three hours each.

The first paper will contain questions on Prose, Supplementary Reading, and Translation from English of a descriptive or narrative piece into Marathi. Text-books prescribed in Prose are to be studied in detail, while supplementary reading books are for rapid reading under the guidance of teachers. In Grammar candidates are expected to know—वर्णविचार, संधि, शब्दविचार (विभक्ति आणि अर्थ), समास, प्रयोग, काळ, धातुसाधितें, अव्ययें, ग्रंथावरून व्याकरण चालविणें आणि वाक्यपृथकरण

The paper will carry 50 marks, approximately divided as given below:—

(a) Extracts to be explained	...	...	...	15
(b) Other questions based on texts	...	...	...	9
(c) Questions on Supplementary Reading	...	...	...	10
(d) Grammar	...	...	...	8
(e) Translation from English	...	...	...	8
Total				50

The second paper of 50 marks will be on the Poetical Texts, Metre, Alankara and Essay-writing. Candidates are expected to know scanning and the names of the metres occurring in the texts. The following Alankaras are prescribed:—

अनुप्रास, यमक, श्लेष, उपमा, रूपक, उत्प्रेक्षा, अनन्वय, व्याजस्तुति, अन्योक्ति आणि अर्थान्तरन्यास.

In essay, quality will be the determining factor. The marks will be divided approximately as given below:—

(a) Passages to be explained	...	...	...	...	15
(b) Other questions based on the texts	...	...	...	...	8
(c) Metres and Alankaras	...	...	...	...	7
(d) Essay	...	...	...	...	15
(e) A question to test the ability of the candidates to read and write Modi	...	...	...	...	5
Total					50

PAPER I.

Prescribed Prose Texts.—

- (1) आश्रमहरिणी by वा० म० जोशी, to be had from the author, Deccan Gymkhana Poona 4.
- (2) गद्यप्रवेश by D. R. Ektare (Sahitya Karyalaya, Agra).

Books for Supplementary Reading:—

- (1) तरुण हिंदु नागरिक by न० चि० केळकर to be had from अनार्थि विद्यार्थिगृह, पुणे
- (2) श्यामसुन्दर—श्री० कृ० कोल्हटकर (Union Stores, Topkhana, Indore City).

PAPER II.

Prescribed text-books in Poetry:—

- (1) काव्योद्यान, Omitting नीतिशतक, by के० रा० रुद्र (Laxmi Narayan Agarawal, Agra).;
- (2) वेंकटेश स्तोत्र, (to be had from Messrs. Naro Appaji Godbole, Book Sellers, Budhwar, Poona).

Books recommended for Alankara, Metre, Grammar and Essay-writing:—

- (1) मराठी साहित्य व व्याकरण (Latest edition) by मो० स० मोने (to be had from the author, Hingne Budruk, Poona 4).
- (2) मराठी दीपिका by वि० भि० कोळते (Kolte Brothers, Malkapur, Berar, C. P.)

(3) શુભદર્પણ by ગોડબોલે.

(4) અર્વાચીન મરાઠી-કુલકર્ણી વ પારસનીસ (Karnatak Press, Bombay 2.)

N. B.—Rules regarding Orthography passed by the Maharashtra Sahitya Parishad, may be observed.

Gujarati.

There will be two papers of three hours each,

The first paper will contain questions on Prose, Supplementary Reading, Grammar and Translation from English of a descriptive or narrative piece into Gujarati. Text-books prescribed in Prose are to be studied in detail, while supplementary reading books are for rapid reading under the guidance of teachers. In grammar candidates are expected to know:—

સન્ધિ, સમાસ, વિભક્તિ, પ્રયોગ, કાળ, અર્થ, કૃદન્ત, તદ્વિત and વાક્ય-વિશ્લેષ.

The paper will carry 50 marks, divided approximately as given below:—

(a) Extracts to be explained	...	...	...	...	15
(b) Other questions based on texts	...	...	...	...	9
(c) Questions on Supplementary Reading	...	...	...	...	10
(d) Grammar	...	...	...	...	8
(e) Translation from English	...	...	...	...	8

Total ... 50

The second paper of 50 marks will be on the Poetical Texts, Metre, Alankara and Essay-writing. Candidates are expected to know scanning and the names of the following metres:—

ચોપાઈ, દોહા, સોરઠા, સવૈયા, છંદપય, શિખરિણી, માલિની, મન્દાકાન્તા, વસન્તતિલકા and શાર્દૂલવિહરિત.

The following Alankaras are prescribed:—

અનુપ્રાસ, ચમક, રસેય, ઉપમા, રૂપક, ઉત્પ્રેક્ષા અનન્વય, વ્યાજસ્તુતિ, અન્યોક્તિ, and અર્થાન્તરન્યાસ.

In essay, more attention should be paid to the language used. The marks will be divided approximately as given below—

(a) Passages to be explained	...	...	...	...	15
(b) Other questions based on the texts...	...	...	...	...	12
(c) Metres and Alankaras	...	...	...	...	8
(d) Essay	...	...	...	...	15
Total					50

PAPER I.

(a) Prose-texts prescribed:—

સાહિત્યરત્ન Vol. I and III (Edition of 1936) ગદ્યવિભાગ
and નાટ્યવિભાગ (To be had of Messrs. Karsandas
Narandas & Sons, Booksellers, Nanavat, Surat).

(b) Books for Supplementary Reading:—

(1) પાટણની પ્રભૂતા by K. M. Munshi (M. C. Kothari,
Raopura, Baroda).

(2) કરણુ દેવો (શાળોપયોગી આવૃત્તિ) by Nandshankar (to be
had of Messrs. N.M. Tripathi & Co., Bombay, 2).

(c) Books recommended for Grammar:—

(1) ગુજરાતી ભાષાનું મધ્ય વ્યાકરણ by K. P. Trivedi
(Messrs. N. M. Tripathi & Co., Bombay 2).

PAPER II.

(a) Prescribed texts in Poetry:—

(1) સાહિત્ય રત્ન—Vol. II. Edition of 1936—પદ્ય વિભાગ.
(To be had of Messrs. Karsandas Narandas &
Sons, Booksellers, Nanavat, Surat).

(2) કુસુમમાલા by N. B. Divetia—Pages 31 to 62 (both
inclusive) Published by Jivanlal Amarsi Mehta.
(To be had from N. M. Tripathi & Co., Bombay 2)
6th Edition.

Bengali.

There will be two papers of three hours each. The first paper will be set on prose text and translation of English into Bengali of a simple descriptive piece. The second paper will be set on poetry text, Grammar, and Composition.

PAPER I.—*Prose and Translation*

The following authors from Matriculation Bengali Selection of the Calcutta University (5th edition Reprint January 1938):—

1. Pandit Iswar Chandra Vidyasagar—2 pieces.
2. Bhudeb Mukherjee.
3. Sanjib Chandra Chatterjee.
4. Bankim Chandra Chatterjee—2 pieces.
5. Akshay Chandra Sarkar.
6. Shivanath Shastri.
7. Romesh Chandra Dutt.
8. Rajani Kanta Gupta.
9. Swami Vivekananda.
10. Jogindranath Basu.
11. Sir Jagadish Bose
12. Bipin Chandra Pal.
13. Rabindranath Tagore—2 pieces.
14. Pacnkari Banerjee.
15. Sarat Chandra Chatterjee.

PAPER II—*Poetry, Grammar and Composition:*

Rabindranath Tagore --Katha-o-Kahini.

Grammar recommended:

Vyakaran Pravesh, II and III Parts by R. Chakravarty
(Students' Friends, Hewett Road, Allahabad) Re. 1/2/-.

Books for General Reading as help to composition:

1. Pratibha —Rajani Kanta Gupta.
2. Palli Samaj—Sarat Chandra Chatterjee.

V.—DOMESTIC SCIENCE.

The examination will consist of two papers of three hours each. The first paper will contain questions on Physiology, Hygiene, Household Management, and Home Nursing. The second paper will consist of the practical examination in Sewing to be held at the same time as the examination in written work. There will also be an oral test in First Aid and Home-Nursing, and a practical test in Cooking and Washing.

Syllabus.

As a basis for the teaching of Hygiene and Home-Nursing there should be a preliminary simple treatment of the following topics on Elementary Physiology :—

The human skeleton, the organs of digestion, the circulation of the blood, the nervous system, respiration.

I.—Hygiene.

Note—Great importance should be attached to practical work wherever the subject admits of this.

Air—Composition of air, ventilation, importance of pure air, impurities of air, diseases caused by impure air.

Water—Composition of water; quantity of water required; sources of water-supply : springs, deep wells, surface wells, rivers, tanks; how water is polluted; how to prevent pollution of water, how to purify water, boiling and filtering.

Food—Composition of food; composition of good diet and its importance leading upto a menu; study of Indian dietaries; preservation of food; cooking of food; drinks and condiments.

Personal Hygiene—Cleanliness of body (hair, nails, teeth, skin, etc.); clothing; exercise; importance of temperance; the use of *Pan*, *Opium*, and other drugs; spitting.

Precautions against diseases—Infectious diseases (small-pox, measles and diphtheria, etc.); co'ds and influenza; tuberculosis; enteric fever; dysentery and diarrhœa; cholera; plague; malaria; itch; leprosy; ophthalmia (sore eyes); ostiomalacia (softening of bones).

II—First Aid.

Triangular bandage, and Roller bandage, figure of eight as applied to knee, elbow, finger, ear; bandage for eye, nose, chin. Bleeding of different kinds; how to stop bleeding; drowning burns; scalds; bruises; sprains; broken bones; dislocation; carrying injured people; fainting; sunstroke; hysteria; epilepsy; suffocation; foreign bodies in eye, ear, nose, and throat; bites of mad dogs; signs of madness in dogs; snake-bite stings.

III - Home-Nursing.

Note—None of the work is to be purely theoretical. Practice must be given in every point which allows of practical work.

Room—Bed; bedding; furniture; light; warmth; ventilation.

Nurse—Health; dress; duties and qualifications of a nurse and the attitude of a nurse towards the sick.

External remedies—Poultices; plasters; fomentations; ice; baths—hot and cold; temperature of baths.

Food—Beverages and invalid cookery and its administration.

The sick room—Administration of medicine; pulse and temperature charts; bathing; changing of garments; bedding and draw sheet, use of the following :—

Thermometer, Enema Syringe, Eye Glass, Medicine Glass, Spittoon, Weighing machine, Bed pan, Barometer, Hot water bottle and Ice bag.

Infectious illness—Precautions during illness; disinfection of room; clothing and bedding after illness; use of disinfectants.

Convalescence—Occupations; visitors; rest; sleep and food.

IV—A. Care of the Aged (food, comfort and provision for recreation).

B. Care and Training of infants and children.

Duties of a mother—(a) from conception to child's birth (b) from the birth of child to when it starts walking (c) from the time when the child starts walking to the age of three years. Food, sleep, exercise, play, clothing, cleanliness, surroundings, formation of good habits during the stages a, b and c given above.

The following books are prescribed as text books :—

1. The Child in the midst by Mrs. L.W. Bryce. Y.M. C.A. Publishing House, 5 Russell Street, Calcutta.
Care of infants in India by Mears and Caldwell & Co., Cranmer Road, London S. W. 9.

3. Manual of Mothercraft by Dr. Balfour, St. John's Ambulance Association, New Delhi.

Books for teachers' reference:—

Chapters I and II of the Expectant Mother and her Baby by Chopra, published by W. Green & Son, Ltd., Edinburgh.

V.—Household Management.

A—Choice of house—Furniture and decoration. Distribution of rooms. Cleansing and care of house and furniture. Disposal of refuse and sewage. Precautions against flies and mosquitoes.

B—Care of the kitchen.—Preparation of simple food,

Two of the following groups:—

- (i) preparation of *roti, rice, dal* and *tarkari*;
- (ii) preparation and care of milk;
- (iii) preparation and care of meat. (One dish only required).

C—Duties of the mistress of household:—

Proper distribution of daily activities. Special attention to be given to free time by filling it up with hobbies. Serving of food and duties of hostess. Accounts and budgeting of expenditure. Postal and railway information (*e. g.* Money Orders, V. P. P. parcels, railway time-tables etc.). Investment of savings.

VI—Clothing.

- (i) Choice and care of the clothing.
- (ii) Methods of washing and ironing cotton, wollen, silk materials and lace.

Note—Practical work should be done, if possible.

- (iii) Sewing, cutting out and fancy needle work. Each candidate will be expected to draft and to cut out to measurement, and make up one of the following:—

(a) Pyjama.

(b) Shirt (Kurta),

- (c) Kurti.
- (d) Blouse.
- (e) Night dress or Night suit.
- (f) Petticoat or skirt or ghagra.
- (g) Pyjama or Inckens for a woman
- (h) Frock.
- (i) Jangya for a child.
- (j) Pyjama for a child.
- (k) Bandi or rompers for a child.

and

Select one of the following fancy needle works :—

- (a) Drawn thread.
- (b) Crewel work.
- (c) English embroidery.
- (d) Chikan work.
- (e) Crochet work.
- (f) Patch work.
- (g) Chobbe work.
- (h) Kasida (Indian embroidery).
- (i) Zari ka kam (gold thread work).
- (j) Spinning.

A good standard of skill will be required in various stitches that are necessary in making up garments and in mending worn out articles of clothing, and in darning, patching, button-hole making.

Knitting garments in cotton and wool will be expected of each candidate.

N. B.—The candidates should bring with them the following articles :—

1. Pair of scissors.
2. Thimble.
3. Measuring tape.
4. Sewing needles, darning needles, two pairs of steel knitting needles and one pair of celluloid, bone or wooden needles,

5. One ball of kachcha thread for tacking and a reel of pacca thread.
6. All necessary materials for the particular fancy needle work chosen by the candidate.

Books for teachers' reference.—

1. Physiology by T. Huxley (Macmillan & Co. Bombay).
2. Tropical Hygiene, Lukis and Blackham (Thacker Spink & Co.).
3. Outline of Domestic Science (for Indian Readers) by Lilian Sawtell (Longmans Green and Co.).
4. Child Management by D. A. Thorn, M. D., (Association Press, 8 Russell Street, Calcutta). Price 12 as.
5. "Food" Col. McCarrison (Macmillan and Co., Bombay). Price 12 as.
6. Domestic Science for High Schools in India by Needham (Oxford University Press, Bombay).
7. Home Nursing (for Indian women living in Indian style), compiled by Lady Petric and Dr. Ruthyoung (Recommended for students' use also).
8. First Aid to the Injured, St. John's Ambulance Association, New Delhi. (Recommended for use of students).

The following books are recommended on cutting and sewing for teachers' reference :—

- (i) A text-book of dress making by Remy Nicholson (Blackie and Sons). Price Rs. 2—4, can be had at Thaker and Co. Ltd., Bombay.
- (ii) Needle Work for Junior Schools and for Senior Schools by Gertrude Fearnside. (Evans Bros.) Price Rs. 2—10 each. Can be had at Thaker and Co. Ltd., Bombay.

B.—OPTIONAL SUBJECTS.

I—CLASSICAL LANGUAGES.

Sanskrit.

There will be two papers of three hours each.

The first paper carrying 50 marks will contain questions on the prescribed texts and on grammar. Candidates are expected to know in Grammar, Sandhi, Declensions of nouns and pronouns, Conjugation of verbs of all classes in Active as well as Passive in all the tenses and moods except लिट् (Perfect) लुङ् (Aorist), and आशीर्लिङ् (Benedictive), Numerals, Participles, and Simple Compounds. Questions in Grammar will be exclusively based on the prescribed texts. The division of the marks will be approximately as given below :—

(a) Selected passages from the prescribed books for translation from Sanskrit	...	...	15
(b) Other questions based on the texts	...	...	15
(c) Questions in Grammar	...	...	20
			<hr/>
Total			50

The second paper of 50 marks will be on Translation from and into Sanskrit, Composition and General Reading. The division of marks in this paper will be as follows :—

(a) Selected passages from the books of General Reading and from others of equal standard for translation into Vernacular	...	...	15
(b) Substance of easy passages from the books, to be expressed in Sanskrit	...	...	10
(c) Translation of easy sentences into Sanskrit	...	...	25
			<hr/>
Total			50

Paper I—Text and Grammar :—

1. Selected lessons from Sanskrit Text-book published by the Board—(Vedic Yantralaya, Ajmer). Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56 and 57.

2. उद्भव of Bhasa, Bharat Publishing House, Jodhpur.

For Grammar the following books are recommended :—

- (1) Sanskrit Teacher by K. P. Trivedi (Macmillan & Co.).
- (2) Bhandarkar's 1st and 2nd Books (for prescribed Grammar portions).
- (3) नवीन संस्कृत व्याकरण by Murari Lal Shrotriya—(Bhargava & Sons, Chandausi).
- (4) संस्कृत वाक्यरचना by S. R. Bhatt (Macmillan and Co.).

Paper II—General Composition and Translation :—

- (1) संस्कृत पुष्पलतिका (Sanskrit Pushpalatika) by C. P. Shastri (Published by Scindia Book Depot, Gwalior).
Lessons Nos. 2, 4, 5, 6, 8, 9, 10, 11, 13, 15, 20, 26, 32, 33 and 35.
- (2) Model Sanskrit Exercises by S.B. Tatke. Published by Gaya Prasad & Sons, Agra.

N. B.—Sanskrit must be written in Devanagari characters only.

Arabic.

There will be two papers of three hours each in Arabic, the first paper will be on the prescribed Text and Grammar. The second paper will be on Translation, Composition and Supplementary Reading.

Paper I :—

- (a) Text: مرقد الادب (Mirkat-ul-Adab) compiled by Zafar Iqbal, M.A., B.T., Lecturer, Central Training College, Lahore, published by Atar Chand Kapoor and Sons, Anar Kali, Lahore.
- (b) Grammar (1) الزنجاني في الصرف (Azzanjani-fis-Sarf) by Shartooni (Urdu edition), edited by Moulvi Izzat Ullah. Majidi Press, Cawnpore. (2) الفريدي في النحو (Azzariri-fin-Nahv). Naval Kishore Press, Lucknow.

Note—Questions in Grammar, exclusively should be asked from the prescribed book, as far as possible, and should carry about one-third of the total marks.

Paper II :—

Translation, Composition, and Supplementary Reading.—

- (a) Selected passages from the books recommended for Rapid Reading and from others of equal difficulty, for translation into Urdu.
- (b) Substance of easy passages from the undermentioned book to be expressed in Arabic; and
- (c) Translation of easy Urdu Prose sentences into Arabic.

Book recommended for Supplementary Reading :—

مدارج القرآن (Madarij-ul-Qurat). Anwar Ahmedi Press, Allahabad.

Persian.

There will be two papers of three hours each in Persian, the first paper will be on the prescribed Text and Grammar. The second paper will be on Translation, Composition and Supplementary Reading.

Paper I :

- (a) Text:—سراج الادب (Siraj-ul-Adab). Printed and Published by the National Press, Allahabad, Price Re. 1/4/-.
- (b) Grammar.—Matriculation Grammar by Qazi Fazle Haq. Published by Rai Sahib Gulab Singh and Sons, Lahore. Price Re. 1/-

Paper II:—

Translation, Composition and Supplementary Reading:—

- (a) Selected passages from book recommended for Supplementary Reading and from others of equal difficulty for translation into Urdu.
- (b) Substance of easy passages from the under mentioned book to be expressed in Persian, and
- (c) Translation of easy English Prose sentences into Persian.

Supplementary Reading:—ذیاء الادب (Zia-ul- Adab) by Prof. Sharif Ali (Printed and Published by the National Press, Allahabad), Price 10 annas, to be had of Ram Narain Lal, Bookseller, Allahabad.

Note—Students who offer Persian are required to have such a knowledge of the etymology of Arabic language as will enable them to explain all Arabic words and phrases which may occur in the text-book and in books recommended for Rapid Reading in Persian.

Note—Persian words must be written in Persian character.

Latin.

There will be two papers, each of three hours. The first paper will be on the prescribed Text and Grammar and the second paper on Translation, Composition and Supplementary Reading.

Paper I—(a) Prescribed Prose and Poetry.

Text Books:—

Caesar: De Bello Gallico, Book IV.

Livy: Hannibalian War, Selections from Books XXIII and XXIV (Macmillan).

Virgil: Aeneid, Books II and IV.

(b) *Grammar*: Gildersleeve's Latin Grammar or Allen's Latin Grammar is recommended.

N. B.—Questions on Grammar exclusively should be asked from the prescribed books as far as possible and should carry about one third of the total marks.

Paper II—Translation, Composition and Unseen:—

(a) Selected passages from books recommended for Rapid Reading and from others of equal difficulty for translation into the Vernacular of the candidates.

(b) Composition will include translation into Latin of easy English sentences and also of a simple passage of continuous English Prose.

Book prescribed.—

Junior Latin Composition by J. Mathewson Milne-
(Harrap and Co.).

II—COMMERCE.

The examination will consist of three papers, (a) one paper of three hours on Business Methods and Correspondence, carrying

40 marks (b) one paper on Type-writing of one hour, carrying 30 marks, and (c) one paper on Book-Keeping of three hours carrying 30 marks. The following is the syllabus in each subject :—

Business Methods and Correspondence.—

Postal information : Rates of postage chargeable on the various postal articles, Registration, V. P. P., Insurance, use of Money Orders and Postal Orders, operation and use of Post Office Savings Bank Account, elementary knowledge of Foreign Post and Air Mail Service Regulations (excluding rates).

Methods of Rapid Communication : Preparation of Telegrams and Cablegrams, including knowledge of simple codes; use of the Telephone.

Home Trade : Wholesale and retail trade; procedure of the various stages through which a trading transaction passes; documents used in effecting sales of goods; preparation of the following simple commercial documents:—

Orders, invoices, account sales, statements of account, debit notes, credit notes, bills of exchange, cheques, promissory notes.

Banks and Cheques : procedure of opening an account with a bank, nature and use of cheques, deposit slips and passbook, bearer and order cheques, crossing of cheques, and endorsements.

Bills of exchange : Making, drawing, accepting and endorsing of Promissory Notes, and Bills of Exchange; Dishonour; Noting; Protesting; Holder in due course.

Meaning of Ordinary Commercial Terms and Abbreviations.—

Office Routine : Inward and outward correspondence and drafting of simple business and official letters. Docketing, copying and despatch of letters, use of card index and filing systems, simple duplicating and other labour-saving devices,

Books recommended :

1. Business Training and Correspondence by S. R. Gupta (Gupta Bros. Khurja).
2. Business Methods and Correspondence by Mr. Y. D. Keskar and J. P. Gupta (Bhagwan Das Madan Mohan, Chandausi).
3. Commercial Practice by Roop Ram Gupta and K. L. Govil, Part I (Messrs. Gautama Bros. and Co., Cawnpore).

Type-writing.—There will be one paper of one hour's duration consisting of type-copying of manuscripts, *viz.* passages, letter and tabular statement. The speed required is 20 words per minute for the letter and the passage.

Note—Teachers are expected to see that each student knows the ordinary care of a machine, including cleaning, oiling and changing of ribbons.

Books recommended.—

Pitman's or Remington Type-writing Manual (Sir Isaac Pitman and Sons Ltd., 39-41 Parke Street, Kingsway, London W. C. 2).

Modern Theory and Practice of Type-writing, book II by Gupta and Agarwal (Gupta Brothers and Co. Khurja, U. P.)

A new manual of Type-writing by Keskar and Jagdish Sharan (Methodist Publishing House, Lucknow).

Book-keeping.—Elementary theory of double entry book-keeping. Preparation and keeping of the Cash Book, Bought and Sold Books, Returns Books, Bills Receivable and Bills Payable Books, Journal and Ledger; recording therein simple transactions involving purchases and sales; Bills receivable and payable, Real, personal, and nominal accounts, such as rent, salaries, interest, discounts, bad-debts and depreciation. Drawing up the Trial Balance. Closing the Ledger and preparing Trading and Profit and Loss Accounts, and Balance Sheet. Simple banking transactions involving the nature and use of cheques,

Deposit slips and pass book, and preparation of Bank Reconciliation Statements. The nature and use of bills of Exchange and Promissory Notes. Petty Cash and Imprest Systems.

Books recommended.—

•Elementary Book-keeping by Arthur Fieldhouse (Simpkin Marshall and Co., Limited, London, E. C., 4).

High School Book-keeping and Accountancy by Ganga Sahai Govil, B. Com., C. T. (Gupta Brothers and Co., Khurja).

Ground Work on Book-keeping by Y. D. Keskar (Bhargava and Sons, Chandausi).

Elementary Book-keeping by J. P. Rastogi (Gaya Prasad and Sons, Educational Publishers, Agra).

III—SCIENCE (Physics and Chemistry).

The examination will consist of two papers—one in Physics and one in Chemistry, each of three hours.

Physics.

Syllabus.

Definition of Physics, measurements of length, area, volume, mass and weight. The Balance, Density, Specific Gravity, Principle of Archimedes. The three states of matter. Pressure of air, simple barometer.

Heat—Expansion of solids, liquids and gases, temperature, thermometers, melting and boiling points, conduction, convection, and radiation. Unit of heat, specific heat, change of state, latent heat. Easy calculations.

Light—Rectilinear propagation of light, Reflection, Refraction, plane, concave and convex mirrors, concave and convex lenses and prisms. Position of object and image with easy calculations. Dispersion.

Sound (Treatment to be simple and non-mathematical).—Wave on water surface, wave length, frequency, amplitude, production and transmission of sound. Velocity of sound in air and water. The Gramophone.

Magnetism—Attraction and repulsion, magnetization, terrestrial magnetism, magnetic meridian. The compass.

Electricity.—Electrification by friction. Properties of a charged body. Conductors and insulators. The electroscope. Induction. The electrophorus. A simple cell, simple forms of primary cells, arrangement of cells in series and parallel, magnetic and heating effects of a current. The simple galvanoscope, simple explanation of the telegraph, the electric bell, electric light.

Practical work.

The following list of experiments indicates the minimum amount of practical work required to be performed by students. Other experiments of equal educational value may be substituted. The experiments should be performed individually as far as can be arranged. The teaching of theory should be fully illustrated by experiments and demonstrations are to be considered an essential part of the teacher's work.

Note—A chart giving a list of the experiments to be performed and the date on which each student completes each experiment should be maintained and hung in the laboratory at each school recognized in Science.

General—Determination of the relative density of:—

- (a) bodies which float in water.
- (b) bodies which sink in water.
- (c) liquids.

Use of the callipers, Determination of the radius of a wire by Archimedes' Principle, Determination of the Internal radius of a narrow tube.

Light.—Reflection at a plane mirror. Focal length of a concave mirror. Refraction through a prism. Refractive index of glass and water. Focal length of a convex lens.

Heat.—Cooling curve of water and wax or naphthalene, Determination of the water equivalent of a calorimeter. Determination of Specific Heat. Determination of the Latent Heat of Ice. Determination of the Latent Heat of Steam.

Magnetism.—Mapping out lines of force by a small magnet. Determination of the direction of the magnetic meridian,

Electricity.—Charging an electroscope by Conduction and Induction. The magnetic effect of a current on a magnetic needle. The electro-magnet.

A.—Text-books for use by the students:—

1. A Text-book of Physics for the High School and Senior Cambridge Examinations by Dr. A. P. Mathur (Gaya Prasad and Sons, Agra).
2. Physics for IX and X classes by Kumar and Bhargava (Bhargava and Sons, Chandausi).
3. Oxford High School Physics (Oxford University Press).
4. Elementary Physics by K.C. Bhattacharya (Indian Press, Allahabad).

B.—Books for Teachers' reference:—

1. Laboratory Manual by K. Kumar (Bhargava and Sons, Chandausi).
2. A New High School Physics by S. R. Anand (University Book Depot, Delhi).
3. Everyday Physics by H. E. Hadley (Macmillan and Co.).
4. An Introduction to Physical Science by I.B. Hart, (Oxford University Press).
5. A Class Book of Physics by R. A. Gregory and H. E. Hadley (Macmillan and Co.).
6. A Course of Physics by Charles H. Draper (Blackie and Sons).
7. Experimental Science, Part 1 (Physics), by Gregory and Hodges (Macmillan and Co.).
8. Text-book of Practical Science by Hari Ram Gupta (Lakshmi Narayan Agarwal, Agra).

Chemistry.

Definition of Chemistry. Common properties of matter. Hardness, porosity and brittleness. Solid, liquid and gaseous states. Change of state, Melting and boiling points. Crystalline

shape. Effect of heat on common things, such as sulphur, green vitriol, blue vitriol, chalk, lead nitrate, potassium chlorate.

Solution in water of NaCl , NH_4Cl , KNO_3 , Na_2CO_3 , CaSO_4 (gypsum), CuSO_4 , $5\text{H}_2\text{O}$, FeSO_4 , $7\text{H}_2\text{O}$ and ZnSO_4 , $7\text{H}_2\text{O}$. Solubility and effect of temperature on solubility. Water of crystallisation. Solution in solvents other than water, e. g. shellac in alcohol and sulphur in carbon bisulphide.

Evaporation, distillation, filtration and sublimation. Crystallisation from solutions in water and of melted sulphur. Separation of simple mixtures and immiscible liquids.

Elementary and compound substances. Non-metals and metals. Chemical symbols. Chemical action. Laws of chemical combination. Atoms, molecules, atomic and molecular weights; equivalent weight and simple methods of its determination. Valency, relation between atomic weight and equivalent weight. Simple formulae and equations.

Study of air. Rusting of metals. Oxidation, active and inactive gases in air, burning of phosphorus, meaning of combustion, slow and rapid combustion studied with iron, magnesium and phosphorus.

Oxygen gas prepared from oxide of mercury and from potassium chlorate. Important properties and uses of oxygen.

Acidic and basic oxides, acids, bases and salts.

Preparation and properties of the following:—

Hydrogen, nitrogen, ammonia, chlorine, hydrochloric acid, nitric acid, carbon dioxide, carbon monoxide, and nitrogen peroxide. Carbon and its allotropic forms and properties. Action of carbon dioxide on animals and plants. Sulphur and phosphorus and their allotropic forms and properties.

Preparation and properties of sulphur dioxide and sulphuric acid, their preparation treated in a very elementary manner; sulphur dioxide by burning sulphur in air and by the action of hydrochloric acid upon a sulphite and sulphuric acid by the action of nitric acid on sulphur dioxide and water,

Study of water. Hardness of water, action of steam on red hot iron filings.

Action of sodium on water. Action of magnesium on steam. Electrolysis of water.

Note.—1. The detailed course given below indicates the minimum amount of practical work required to be performed by students and suggests a method of treatment of the syllabus for the guidance of teachers. They may substitute other experiments of equal educational value. Practical work should be co-ordinated with the theoretical work and should follow it consecutively, as far as possible. The practical experiments should be performed individually so far as can be arranged.

2. A chart giving a list of the experiments to be performed and the date on which each student completes each experiment should be maintained and hung in the laboratory of each school recognised in Science.

The use of stencils in answering papers in Science is not allowed.

(Classes IX and X.)

Classes IX and X will have 6 periods of Science per week, for at least 27 working weeks; this gives a total of 162 periods in class IX:—

Subject.	Detailed Syllabus.	Minimum list of experiments which should be done by the pupils individually.
Chemistry ...	Effect of dissolved substances on boiling point.	To find B. P. of solutions of calcium chloride. Solutions of different strengths.
	Distillation and purification of water	To bend tubes, bore corks, set up apparatus for distillation and find B. P. before and after distillation.
	Elements and compounds.	To examine the elements sulphur, copper, lead, mercury and zinc. To examine the compounds, ferrous sulphate, copper sulphate, lead oxide, mercury oxide and regain the elements, where possible.

Subject.	Detailed syllabus.	Minimum list of experiments which should be done by the pupils individually.
	<p><i>The atmosphere</i>, combustion, active and inactive air.</p> <p>Rusting </p> <p>Increase in mass in rusting and burning. Explanation of above. Introduction of terms "Oxygen" and "Nitrogen".</p> <p>Oxygen </p> <p>Metals and non-metals.</p> <p>Oxides.</p> <p>Nitrogen. Its use in the atmosphere.</p> <p>Water not an element ...</p> <p>Resume of above. Introduction of term "Hydrogen".</p> <p>Preparation of hydrogen and its properties</p> <p>Carbon </p>	<p>Burning a candle in a bell jar, repeat with sulphur and phosphorus. To measure the proportion of air used up when a substance burns in air.</p> <p>To show that iron will not rust in dry air. To measure the air used up when iron rusts in air.</p> <p>To show increase in mass when magnesium and iron burn in air and when iron rusts in air and when a candle burns in air</p> <p>Preparation from mercuric oxide and from potassium chlorate in small quantities and on large scale from manganese dioxide and potassium chlorate, its properties.</p> <p>To show loss in mass when potassium chlorate is heated.</p> <p>Their basic and acidic properties.</p> <p>Properties:—to find accurately percentage of nitrogen in air by pyrogallic acid (Lecture room).</p> <p>Action of sodium on water. Action of magnesium on boiling water. Action of steam on iron. Examination of oxide of iron formed. Increase in mass. Comparison with iron rust.</p> <p>From zinc and sulphuric acid.</p> <p>What happens to the zinc? What happens when hydrogen burns in air? Explosion of hydrogen with air.</p> <p>Electrolysis of water and its composition by volume. Action of hydrogen on copper oxide when heated. (Lecture room).</p> <p>Properties and varieties.</p>

Subject.	Detailed syllabus.	Minimum list of experiments which should be done by the pupils individually.
	Demonstration lesson ...	Formation when carbon or carbonaceous matter burns in air.
	Carbonic acid gas ... Chalk.	Effect of acids on chalk, examination of the gas evolved. Examination of lime, difference between the properties of chalk and lime.
	<i>Resume of above.</i> Animal and plant life.	Formation of oxygen by plants.
	Chlorine gas ...	Preparation from manganese dioxide and hydrochloric acid Its properties.
	Hydrochloric acid gas ...	Preparation from sodium chloride and sulphuric acid. Its properties.
	Ammonia gas ...	Preparation from ammonium chloride and quicklime. Its properties.
	Sulphur ...	Effect of heat.
	Sulphur dioxide ...	Preparation and properties.

Note.—In class X time is left for revising the whole course in preparation for the High School Examination.

Identification of the following salts:—

- (1) Sodium chloride, (2) Potassium chloride, (3) Ammonium chloride, (4) Sodium carbonate, (5) Calcium carbonate, (6) Sodium nitrate, (7) Potassium nitrate, (8) Potassium chlorate, (9) Zinc sulphate, (10) Copper sulphate, (11) Ammonium sulphate, (12) Iron sulphate.

The books suggested for use in Chemistry are:—

- (1) Gregory, Dhond and Ingle—Matriculation Physics and Chemistry (Macmillan).
- (2) K. Kumar: Chemistry for classes IX and X (Bhargava, Chandausi). (Revised edition).

- (3) Elementary Practical Chemistry by Vogel (Blackie).
- 4) Chemistry for matriculation students by A. L. Agarwal (S. Chand & Co., Delhi).
- 5) High School Chemistry by S. C. Agarwal (Lakshmi Narain Agarwal, Agra).
- (6) Chemistry for High Schools by Doosaj (Datt Brothers, Ajmer).

The following book is recommended for general reading:—
A School Course of Chemistry by Partington.

IV.—AGRICULTURE.

The examination will consist of two papers of three hours each.

The first paper will be on the subject matter in the syllabus up to and including sub-section (5)—Tillage; and the second paper on the remaining portion.

Syllabus.

(1) **Climatology.**—Weather and seasons in the country and in the provinces.

(2) **Soils.**—Soil-forming processes; Weathering. Solution. Plants and animal agencies.

Classification of soils.—Local classification—Clayey, Loam Sandy, Concretionary Saline, Silt, Goind, Ahar, Uparhar.

Mechanical analysis of soils.—Determination of Stones, Gravels, Moisture, Humus, Sand and Clay.

Texture of Soils.—Arrangement of particles of soil; Specific gravity; Pore space; Surfaces exposed; Number of particles in a unit volume; Plasticity; Cohesion, Forces of facilitating granulation.

Organic matter in the soils.—Its sources and distribution. Decrease of organic matter. Estimation of organic matter. Its effect on soil. Its maintenance.

Soil water.—Its forms, its movements. Factors affecting hygroscopic, capillary and gravitational water,

Control of soil moisture.—Run off losses; Percolation; Evaporation. Methods of checking the same; Mulching, Ploughing, Rolling, Shelter, Plants.

Soil heat.—Relation of heat to germination and growth. Sources of soil heat. Factors affecting soil temperature.

Absorptive power of soils.—Effect of colour. Effect of texture and structure on heat. Radiation, Convection and Conduction. Absorptive power of soils in relation to gases and solutions. Nature and properties of sub-soils in relation to soils.

(3) **Irrigation and Drainage.**—

Water requirements of plants.—Factors affecting transpiration. Wilting point. Optimum moisture for plant growth, Conserving of moisture.

Sources of water of irrigation.—Rain, its annual and seasonal variations, Ice, Frost, Snow, Dew, Hail, Wells (spring and percolation), Rivers, Canals and Tanks.

Types of water lifts.—Persian Wheel, Chain Pump, Hand Plunger Pump, Charsa, Baldeo Balti.

Distribution of water.—Flow systems; Pacca and Katchha channels, Planning and laying out of irrigation drains.

Drainage—Earth bunds, Conditions making drainage necessary, Type of soils requiring drainage, Situation requiring drainage, Possible relation between irrigation and drainage.

(4) **Manures and manuring.**—Farm-yard manure. Fermentation. Application; Feeding for manuring, Special manures, *i. e.* Bones, Potash Nitrate, Oil-cakes, their manurial properties and application, Green manuring, important plants that can be used, their method of application.

(5) **Tillage.**—Objects of Tillage and description of principal implements of tillage:—

(a) Ploughs.

(b) Harrows.

(c) Cultivators.

(d) Harvesting machines.

(6) **Plants.**—Utilization of plants and plant parts of the crops of the provinces,

General description of a plant and its parts and the functions of each.

Plant nutrition, Growth, Substances necessary for plant growth, Sources of those substances, Storage and movements of food materials.

Reactions of the plant to moisture, light and gravity.

General idea of flowers and their parts, Pollination, Different methods of Pollination.

Fruits and seeds.—Their general structure and their functions. Length of life of seeds. Conditions necessary for their germination. Selection of seeds and their storage.

(7) **Farm Crops.**—Preliminary cultivation, sowing, weeding, manurial requirements, harvesting, storage and marketing of the following crops :—

Wheat, barley, gram, peas, rice, maize, jawar, pulses, cotton, flax, sannai, ambadi, potatoes, sugarcane, tobacco, vegetables.

(8) **Farm animals.**—Buffaloes, cows and oxen, their care and maintenance. Determination of age of animals, goats, sheep, and poultry.

(9) Patwari papers, their use and maintenance.

Candidates are required to maintain note-books of all work done both theoretical and practical. These note-books should be inspected periodically and initialled by the teachers. These note-books may be called for at the time of the examination.

Candidates will undergo the following course of practical work in connection with the above syllabus :—

1. Each student is required to keep records of the following facts noted in the school observatory :—

- (a) Rainfall.
- (b) Maximum and minimum temperature of air in shade.
- (c) Wind directions and velocities.
- (d) Amount of clouds and their direction.
- (e) The time of occurrence of frost, fog, hail, dust storm.

(f) Afternoon temperature of black soil, light coloured soil, Ploughed soil, rolled soil, and mulched soil.

2. Separation of stones, gravel, and fine soil by sieve.

Separation of sand and clay by sedimentation.

Determination by ignition of moisture and humus in soil.

Specific gravity of soils and pore space.

Weight of different soils in unit volume.

Organic matters in soil and sub-soil, its power of absorbing moisture.

Weight of water absorbed by soils from a saturated atmosphere.

Amount of percolation of water in a unit of time through sand, clay and loam.

Classification of soils as Domat, Matyar, Balwar, by sight.

3. Amount of water taken out in one hour by the different water lifts in use.

Amount of water discharged on fields by Katchha, Pacca and puddled channels.

4. Results of applications of green manuring, farmyard manure, oil-cakes, ground bones, bone ash, potash nitrate applied to school garden plots.

5. Handling of farm implements, their use and special designs.

6. Drawings of different parts of plants grown on the farm.

7. Records of notes of cultivation of at least one Kharif crop, one Rabi crop, one Garden crop from the time of preparation of seed bed to marketing, actually attended to by the candidate.

8. Practical determination of age of farm animals.

Description of local breeds of farm animals.

Recognition of different feeding stuffs.

Lay out of stables from sanitary point of view.

Books recommended.—

1. Meston Readers, Parts 1 to 3, by K. S. M. Quyum, Agricultural College, Cawnpore (to be had from the author).
2. Krishi Shastra or Ilm Zarayat by Tej Shanker Kochak, Principal, Govt. Krishi Vidyalaya, Bulandsahar (Published by the author).
3. Notes on Poultry-keeping in India by Mrs. A. K. Fawkes (Lucknow publishing House, Lucknow).
4. Tisdale's Books on Dairying.
5. Monthly Journals, Leaflets and Bulletins issued by the United Provinces Agricultural Department.
6. Lessons in Indian Agriculture by D. Clouston (Macmillan and Co., Ltd.).
7. Rahber Zarait by T. S. Kochak (published by the author) price Rs. 2-8.
8. Krishi Vigyan Part I, by Sita Prasad Tiwari (Ram Dayal Agarwal, Katra, Allahabad).
9. Sachitra Krishi Shastra by R C. Arora (Unique Literature Publishing House, Atrauli, Distt. Aligarh).
10. A text book of Agriculture by B. S. Nigam (National Press, Allahabad).

V.—DRAWING.

The examination will consist of two papers of three hours each. The first paper will be on model drawing or (object drawing).

The second paper will consist of two subjects (a) Elementary design (b) Geometrical Drawing.

Syllabus.**PAPER I.**

Object Drawing. This should be drawn in pastel on tinted paper and should comprise common objects from nature involving instructions in the art of light and shade, and simple blending of colours.

The round. Such as Flower Pots, Household Utensils, Tumblers, Bottles of all kinds. Inkpots and candle sticks.

Miscellaneous. Open book, boxes of simple kinds, Hockey Sticks, Cricket Bat, Tennis Racket, etc.

Nature study. Simple flowers and leaves of all sorts.

PAPER II.

(a) *Elementary design.* Nature study of simple leaves and flowers with a view to the development of Elementary design motifs, to be drawn in pencil and ink.

(b) *Geometrical Drawing.*

- (1) The theory and use of instruments, especially of the Protractor and Marquise Scale.
- (2) Scales and their use—The diagonal scales, scale of chords. The table of chords.
- (3) Measurement and construction of angles.
- (4) Division of lines, Proportionals.
- (5) Triangle, Right-angled Triangle, Sine, Cosine and Tangent, other triangles, similar triangles.
- (6) Quadrilaterals.
- (7) Areas of Straightlined figures.
- (8) Circles—Contact of lines and circles.

Books recommended.—

OBJECT DRAWING.

- (1) Pastel work for the standards, 3 volumes; Author—A.G. Tompkins; Publishers—Messrs. Issac Pitman & Sons, London, Bath & New York, Price Rs. 3 each Volume.
- (2) Art Drawing for Indian Schools by Macmillan and Co., London.
- (3) Modern Drawing series by R. C. Singhal, Books no. 1 to 6, Gupta Bros & Co., Khurja, U. P.
- (4) Progressive Drawing Series, the whole series, No. 3, 4, 5, 6, 7, 8. (New India Book Company, Khurja City).

Materials. Pastel paper etc., Reeves obtainable from Messrs. J. N. Navalakhi & Co., Kalbadevi Road, Bombay.

ELEMENTARY DESIGN.

- (1) Drawing of foliage and foliated design—J. Carrol. Publishers—Burn & Oates Ltd., 28, Orchard Street, London, W. England.
- (2) Pattern Drawing and Design by J. Carrol. Publishers—Burn and Oates Ltd, 28, Orchard Street, London, W.
- (3) Practical Design and Lettering by R. N. Saksena (Kanhia Lal and Sons, Jaipur).

GEOMETRICAL DRAWING.

- (1) Geometry plane and solid by (Morris) Longman's Green & Co., Bombay.
- (2) New Practical Geometry by Hazura Singh Khalsa, Art Master, Govt. High School, Agra, Publisher—Lakshmi Narain Agarwal, Educational Publisher, Agra.
- (3) Roorkee Drawing Manual (Veals) Roorkee Thomson College Book Depot, Roorkee.
- (4) Geometrical Drawing (plane) by M. K. Verma R. D. S., Published by Popular Book Depot, Educational Publishers, Agra.
- (5) Modern Art Geometry for Schools and Colleges, by R. SINGHAL. (Ram Narain Lal, Allahabad).
- (6) A manual of Lettering by M. M. METHA. (J. V. Navalakhi and Co., Bombay) Price 0-12-0.

VI.—MANUAL TRAINING.

The examination will consist of one paper of three hours in Drawing and a practical examination of four hours in Wood work.

Syllabus.

(1) *Woodwork—*

- (a) A series of model graduated in respect of the tool manipulations involved to be made in wood from working drawings (drawn in plan and elevations,

conventional isometric projection) or from a given pattern in wood, the construction of the models to involve the use of one or more of the following tools:—

Jack Plane, Try Square, Marking Gauge, Marking Knife, Smoothing Plane, Tenon Saw, Bevel, Screw Driver, Firmer Chisel, Hammer, Mallet, Bradawl, Nail Punch, Compasses, Firmer Gauge, Gimlet, Frame Saw, Spoke Shave, Brace and Bit, File.

The following joints at least should be included amongst the models:—

Half-lap Housing, Mortise and Tenon, Half-lap Dovetail Box, Dovetail, Edge Dovetail, Bridle.

(b) The care and maintenance in good working condition of the above-mentioned tools, including saw setting and sharpening.

(2) *Drawing*.—

Drawing in plan and elevations of all models in the course and in conventional isometrical projection of those of a rectangular shape.

Note—A detailed syllabus of manual training involving the manipulation of the above tools is given at pages 73-77. The course should begin in class VI.

Books recommended for the *use of teachers*.—

- (1) The Self-Help Course of Woodwork Exercises, E. J. ANDREWS, (Charles and Dible, 10, Paternoster Row, London) Price Rs. 25-0-0
- (2) Manual Training for Indian Schools, by J. Y. BUCHANAN,—1916. Oxford University Press Price Rs. 1-8-0
- (3) Manual Training for Secondary Schools in India by A. H. MACKENZIE (Indian Press Allahabad 1912) Price Rs. 2-0-0
- (4) Pedagogy of Educational Handicrafts by J. W. BERRY, (London and Bombay: Blackie and Sons Ltd.) Price Rs. 1-8-0
- (5) A manual of carpentry in Hindi by V. L. Mane (K. R. Gokhale, Lashkar).

DETAILED SYLLABUS OF MANUAL TRAINING.

Note.—Other models may be executed at the direction of the teachers, if they embody the same tool manipulation. Cheapness of materials, usefulness and originality should be kept in mind. Some voluntary exercises on the pupil's part are specially recommended.

Class.	Theoretical Work.	Tools.	Models.	Drawing.
VI.	1. Correct working methods. 2. Manipulation of simple tools.	Jack Plane.	1. Rectangular Prism.	Bisecting and dividing of line.
		Soothing Plane.	2. Rectangular Prism with saw cuts or chiselling exercise, square and oblique.	Formation of given angle.
		Try Square.	3. Winding Strip.	Erection of perpendicular.
		Marking Knife.	4. Octagonal Prism.	Dividing of angle.
		Marking Gauge.	5. Round Ruler.	Formation of rectangle and square.
		Tenon Saw.	6. Halved joints (square, oblique, dovetail).	Drawing of parallel lines.
		Chisel.	7. Coat Hook, (half-lap joint).	Construction of simple polygon.
		Screw Driver.	8. Pin Tray (octagonal : vertical chiselling).	Drawing of plane scale.
		Bradawl.	9. Simple wall Bracket with housed joint.	Orthographic views of rectangular model.
		Hammer or Mallet.	10. Letter Rack with screws.	

DETAILED SYLLABUS OF MANUAL TRAINING.

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Class.	Theoretical Work.	Tools.	Models.	Drawing.
VII.	1. Correct working methods as in Class VI.	Previous tools and Hammer.	1. Mortise and Tenon joints (blind open, simple haunched.) 2. Pin Tray (Pentagonal or hexagonal; use of gauge). 3. Housed joint. 4. Simple Wall Bracket (using nails and compass). 5. Box (using nails). 6. Books stand (using half-lap joint and screws or housed joint). 7. Towel hanger. 8. Hat Rack (coat hooks attached to a strip with tenon). 9. Letter Rack (with screws in triangular piece and hole for hanging). 10. Coat Hanger. 11. (a) Wall pegs or (b) Pointer. 12. Bench Hook. 13. Soap Bracket (using nail joint).	Construction of simple polygons such as pentagon, hexagon and octagon. Orthographic or isometric projection of all the models of class. Freehand sketch of Chisel, Screw driver, Bradawl, Mortise Chisel, Reamer, Bit, File, Compass. Problems : 17, 24, 30, 59. (Morris I. H. : Geometrical Drawing for Art Students) (Edition for India by Jessup, 1933). Longmans Green & Co., 53, Nicol Road, Bombay).
	2. Correct manipulation of the new tools.	Frame saw (or compass Saw).		
	3. End Planing.	Nail Punch. Gauge. Half round File. Cross out Saw. Spoke Shave. Pincers of Pliers.		

DETAILED SYLLABUS OF MANUAL TRAINING.

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Class.	Theoretical Work.	Tools.	Models.	Drawing.
VIII.	1. Manipulation and correct use of the new tools.	Previous tools and Tenon saw.	1-5 Mortise and Tenon Joints (single double haunched, long and short shouldered).	Construction of quadrilaterals such as trapezium, parallelograms, arcs etc.
	2. Elementary sharpening of tools.	Mortise Chisel.	6. Bridle joint open, stopped.	Orthographic and isometric projection of all models.
	3. Knowledge of names of kinds of wood used in models.	Mortise Gauge. Brace and Bit. Mallet.	7. Soap Bracket, more difficult. 8. Towel-hanger (for Roller Towel). 9. Elliptical Wall Bracket.	Freehand: Gauge, Hammer, Chisel, Bit, Brace, Planes. Problems : 22, 33, 34, 46 (Morris).
		Bevel Square.	10. Pen Tray (vertical chiselling and gauging). 11. Book Rack (with hinges). 12. T-Square.	

DETAILED SYLLAEUS OF MANUAL TRAINING.

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Class.	Theoretical Work.	Tools.	Models.	Drawing.
IX.	<p>Care and maintenance of tools.</p> <p>Common Indian timbers with distinguishing features.</p> <p>Methods of seasoning. Faults of timber.</p>	<p>Previous tools and</p> <p>Bevel-edged Chise .</p> <p>Carving Tools.</p> <p>Moulding Plane.</p> <p>Key-hole Saw.</p>	<p>1. Mitre joints.</p> <p>2. Picture Frame.</p> <p>3 6 Dovetail joints, (open, hidden, lap, half).</p> <p>7-10 Models involving the previous joints and shapes, such as Big Box, Stationery Cabinet, Casket etc., and Tray.</p> <p>11. Chip Carving (only for Tray).</p> <p>12. Tusk Tenon Joint (blind, open).</p>	<p>Construction of scales (Diagonal).</p> <p>Construction of circles in triangles, in trapezium and in sector.</p> <p>Isometric view of models.</p> <p>Sectional view.</p> <p>Freehand sketch: Saw Handles, Planes.</p> <p>Problems: 96, 100, 102, 105 (Morris).</p>

DETAILED SYLLABUS OF MANUAL TRAINING.

Class.	Theoretical Work.	Tools.	Models.	Drawing.
X.	<p>1. Familiar means of fastening (glue, screws, nails,) their proper place and use.</p> <p>2. Importance of proper sequence of tool operations in practical work.</p> <p>3. Teeth of saw (formation only).</p> <p>4. Angle of sharpening cutter and chisel.</p> <p>5. Simple estimating.</p>	<p>All the previous tools and</p> <p>Rip Saw.</p> <p>Triangular File.</p>	<p>Big Models:</p> <ol style="list-style-type: none"> 1. Tray. 2. Stationery Cabinet. 3. Casket. 4 Box. 5. Wall Brackets. 6. Picture Frame. 7. Flower Pot Stand (showing use of any moulding plane or handmoulding) or candle stand. 8. Water-pot Stand (folding design). 9-10. Model of Trusses (scarf or other joints). 11. Any other suitable model. 	<p>Sectional views of models and other big jobs, such as Tables, Doors and Almirahs.</p> <p>Practice of Freehand sketches of almost all tools.</p> <p>Drawing to scale (of tools and of simple jobs.</p>

VII.—A MODERN EUROPEAN LANGUAGE.

French.

There will be two papers of three hours each. The first paper will consist of passages for translation from the prescribed text-books, questions on the subject-matter of the books prescribed and questions on grammar. The second paper will consist of unseen passages of the same standard as that of the prescribed books and idiomatic phrases and a short passage for translation from French into English and vice versa.

Books Prescribed —

1. Daudet—*Letters de mon moulin*:
edited by Bradly and Rieu (Oxford Clarendon Press).
2. Moliere—*Le malade imaginaire*. edited by G. E. Fasnacht (Macmillan).
3. Mèrimée—*Colomba*.
edited by G. E. Fasnacht (Macmillan).
4. French Poetry for advanced students by A. Watson Bain (Macmillan) of which poems nos. 1, 9, 11, 12, 13, 14, 16, 31, 48, 56, are prescribed.

Grammar recommended.--

French Grammar (Sonnenchien's Parallel Grammar Series).
(Clarendon Press, Oxford).

or

Modern French Grammar by Heath (Harrap).

VIII.—METAL WORK.

The examination will consist of one paper of three hours in Drawing and Theory, and a practical test for four hours in Forging and Fitting Work.

Syllabus.

(a) **Practical Work.**—A series of models graded in respect of tool manipulation to be made in metal from Working Drawings or from Patterns, and involving the use of Forge, Anvil, Vice, Tongs, Top and Bottom Tools, Drills, Hammers, Files, Stocks and Dies, etc. Exercises should include Drawing Down. Upset-

ting, Welding, Annealing, Hardening and Tempering, Riveting, etc., and such objects as Punches (nail and centre), Scribing Knife, Nuts and Bolts, Rings, Chain Links, Hasp and Staple, Keys (for shafting), Coat Hook, Wall Bracket, Letter weight, Callipers, Wall Holdfast, Cold Chisels, Drills, etc.

(b) **Theoretical Work.**—Properties and uses of different metals, Iron (malleable and cast), Steel, Brass etc., Sections and weights of above, Length calculations, Working heats, Care and maintenance of tools, forge etc

(c) **Drawing.**—In orthographic projection of all models made during the course.

Books recommended.—

1. Smithy and Forge Crane, approximate price Rs. 2. (Publishers-Crosby Lockwood).
2. Smith's Work Hasluck, Price Rs. 2, Cassels, Or W. and G. Foyle Ltd., Charing Cross Road, London, W. C. 2, England.
3. Educational Handwork, Jenkins, Price Rs 3 (University Tutorial Press).
4. Handcraft in Wood and Metal, Shirley and Hooper, Price Rs. 9 (Batsford). Publishers—W. and G. Foyle Ltd., Charing Cross Road, London, W. C. 2, England. Or B. T. Batsford Ltd., 94, High Holborn, London.
5. Plain and ornamental forging, Schwarzkopf Wiley and Sons, Price Rs. 6-8-0. Publishers—W. and G. Foyle Ltd., Charing Cross Road, London, W. C. 2, England.

IX.—HISTORY or GEOGRAPHY.

(The same course as in the compulsory subject).

X.—MUSIC.

There will be two tests in Music, *viz.* a two hours' paper in theory carrying 40 marks, and a practical test carrying 60 marks lasting at least 20 minutes per candidate.

Candidates must pass separately in each of the tests theoretical as well as practical,

The following courses are laid down in Music for the High School Examination:—

Theory:—Sound—its Production and Propagation. Vibration, Frequency, Timbre, Musical Sounds, नाद The शुद्ध and विकृतस्वर, सप्तक, श्रुति, मन्द्र मध्य and तार Octaves, आरोह and अवरोह, ठाठ, वर्ण, जाति, राग, औड़व, षाड़व and सम्पूर्ण, बादी समबादी, अनुबादी, बिबादी, गीत और गीतों के प्रकार (ध्रुपद इत्यादि) और बिभाग (अस्थाई, अन्तरा इत्यादि).

Time theory of the Rags, लय, ताल and मात्रा । Notation, good and bad points of a musician.

Practical—

Description (श्लोक or दोहा), Notation, स्वर ज्ञान including अलंकार, आरोही, अवरोही, तालबद्ध सरगम and पकड़ of the prescribed Rags to be sung, or in the case of instrumental music, to be played on the instrument concerned.

To know orally the बोल and mark time with the hand of the following Tals.—

तिताला, इकताला, दादरा, क्षप ताल and दीपचन्दी ।

To be able to tune the Tambura and use it; also, in case of Instrumental Music, to tune the instrument concerned.

To the accompaniment of the Tabla to sing one ध्रुपद or छोटा ख्याल or play a गत on the Sitar or Saroda or Israj or Violin of the following Rags:—

Teachers are expected to select songs in such a way as to give the candidates a practical idea of all the Tals prescribed.

कल्याण ठाठ—यमन, भूपाली and हमीर,

विलावल ठाठ—अलैया and बिहाग,

खमाज ठाठ—खमाज and देश,

भैरव ठाठ—कालिंगदा,

काफी ठाठ—काफी, पीलू, सारंग and बागेशरी,

असावरी ठाठ—जौनपुरी,

भैरवी ठाठ—भैरवी,

With five '*alaps*' and five '*tans*', or ten '*figras*' in the case of instrumental music of each Rag.

Note—The courses prescribed above are for the examination of 1941, but it should be possible for the heads of institutions to fit in the teaching of Music in the ordinary school time-table if the courses prescribed both in theory and practice are spread over a period of 5 years, starting with class VI. In that case the class-wise course in practice may be as below:—

Class VI.—स्वर ज्ञान, अलैया and यमन Tal तिताला

Class VII.—भूपाली, खंमाच Tal दादरा

Class VIII.—काफी, सारंग Tal एक ताल

Class IX.—हमीर, बागेशरी, बिहाग, देश, पीलू Tal झप

Class X.—कालिंगदा, भैरवी, जौनपुरी Tal दीपचंदी

In the first year only two *Alaps* and two *Tans* or two *figras* of each Rag are to be taught; in the second year three new ones are to be added. All *Tans* are to be completed by the end of the fourth year.

Revision of the previous year's course should be undertaken at the beginning of each new session.

The teacher should be able to distribute the theory course among the classes according to the ability of the pupils.

Books recommended:—

Relevant chapters from—A course of Physics by Draper (Blackie and Sons).

Or

High School Physics by A. D. Joshi (Oxford University Press).

Or

Heat, Light and Sound by Jones (Macmillan).

Shastra Pravesh parts 2, 3, and 4 by Pandit V. N.

Bhatkhande (Taluqudar Press, Lucknow).

Kramik series Parts I, II, and III by Pt. V. N. Bhatkhande

(Publishers Mr. Bhal Chandra S. Sukthankar, M. A.,

LL. B., Solicitor, Malabar Hill, Bombay).

Sangeet Siksha Parts I to III by Mr. Sri Krishna Ratanjankar, Principal, Marris College of Hindusthani Music, Lucknow, (Taluqdar Press, Lucknow).

Tan Malika Parts I and II by Mr. Sri Krishna Ratanjankar (Taluqdar Press, Lucknow).

Tan Malika Parts I and II by Rajabhaiya Poochwale, Principal, Sangeet Vidyalaya, Gwalior (obtainable from the author).

Sitar ki Pahli, Dusri and Tisri Pustak by Mr. B. L. V. Bhimpure, M. A., LL. B., Principal, Normal School, Gwalior (obtainable from the author).

Sangeet – Journal of the Marris College of Hindusthani Music, Lucknow (Obtainable from the Principal).

Sangeet Parichaya Mrita by Prof. B. L. Vajpeyi Bhimpure, Lalit Niwas, Lashkar, Gwalior (to be had from the author).

Ma-ar-i-fun Nagmat by Raja Nawab Ali Khan of Akbarpur (to be had from the author, Court View Castle, Lucknow).

Sitar Margaya, Part I, by Shripado Bandopadhyaya, All India Marris College of Hindusthani Music, Lucknow (published by Oudh Printing Works, Charbagh, Lucknow) (Obtainable from the author).

It is suggested that schools teaching Music may subscribe standard journals on Indian Music.

Instructions to Practical Examiners in Music.—

- (i) The examiners are expected to test practically the knowledge of the candidates to sing or play the **भारोह, अवरोह**, of the prescribed Rags and also to recognise the Swaras of the prescribed Rags as played or sung to them by others.
- (ii) Each candidate will be required to sing or play in one or more of the Tals prescribed :—
 - (a) The Asthai, Antara or the Gat-Tora.
 - (b) Tans and Fiqras of any of the prescribed Rags.

- (iii) 10 marks will be set apart for the general effect produced by the music rendered by the candidate.
- (iv) 20% marks will be deducted if the candidate sings to the accompaniment of a musical instrument other than the Tanpura and the Tabla.
- (v) No candidate will be tested in practical music unless he sings or plays to the accompaniment of the Tabla or any other Tal instrument.
- (vi) The examination centres are required to provide a Tabla player for the practical test. The player may be the music teacher or any other candidate.
- (vii) In allotting marks in the practical test in Instrumental Music the examiner will take into consideration the posture of the candidate and his manipulation of the instrument.

XI.—ELEMENTARY SCIENCE.

(Including elementary principles of Physics, Chemistry, Biology, Physiology and Hygiene).

There will be two papers of three hours each as follows :—

First paper—Physics and Chemistry.

Second paper—Biology, (animal) Physiology and Hygiene.

Syllabus.

(It is assumed that candidates taking Elementary Science have completed the Science course laid down for the Upper Middle Section as questions may be asked from this course also in the High School Examination).

I—Physics.

Measurement of length, area and volume, construction of a simple balance. Pressure at different depths in liquids. Density, Specific Gravity, Archimedes' Principle and its applications. Floatation (Ships, Airships, Balloons, Icebergs). Air-pressure, Effects of air pressure. Syringe. Simple water pump,

How the pressure of the air is measured. Barometer movements and weather. Action of the foot-ball and bicycle pumps. Bicycle valve. Kites, aeroplanes. Steam pressure. Force on piston of steam engine.

Rectilinear propagation of light. Plane mirrors, Laws of reflection. Images in spherical mirrors (no formulae) Refraction. Magnifying glass. Simple ideas about the principles and use of Camera. Dispersion and colour.

Electrification. Electroscope. Conductors and insulators, Magnets. Polarity, Earth's Magnetism. Compass needle. Cells and batteries. Electro-Magnet. Simple explanation of the electric bell. Simple galvanoscope. Heating and chemical effects of a current.

Sources of heat. Expansion of solids, liquids, and gases. Effects of expansion; Thermometers. Clinical thermometer. Freezing mixtures. Transference of heat. Davy's safety lamp. Winds. Cold nights with cloudless sky. Thermos-flask. Units of heat. Specific heat. Latent heat (no calculation). Cold on evaporation. Heat on compression. Humidity. Change of volume on melting. Boiling of liquids. Evaporation of water in different seasons.

II—Chemistry.

Solutions in water and other liquids Crystallization Saturated solutions. Elements, compounds and mixtures. Study of atmosphere. Oxygen and Nitrogen. Combustion; slow and rapid. Flame. Water. Properties of Hydrogen. Ammonia. Limestone. Sodium carbonate and caustic soda. Hard and soft waters. Acids. Bases. Salts, Chemical symbols. Conservation of mass. Carbon; properties and varieties. Carbon dioxide. How plants use air. Respiration, Coal gas. Sulphur : properties and varieties. Sulphur dioxide. Chlorine. Hydrochloric acid. Phosphorus. Matches. Common Salt. Properties of metals, non-metals. Alloys. Simple ideas of the properties of iron and steel. Petroleum and its products : sources and use. Soap. Glass,

III—Biology.

Life of animals, based on the frog—External parts and their work Internal parts and their work : Digestive system food and digestion. Circulatory system and blood : work of blood and need for circulation. Lungs and breathing. Kidneys and excretion. Nervous system : sensation and special senses. Muscles and movement. Bones and support. Reproductive system and reproduction. Habits and life history of the frog.

General Survey of the animal Kingdom—Illustrated mainly by local animals.

Life of plants based mainly on mustard (or bean plant)—Various forms of plants; trees, herbs, climbing plants, parasites, non-green plants. Parts of the plants and their work. Leaves : manufacture of food; loss of water to air. Stem : carrying water and food; support of leaves. Root : collecting water and salts from the soil; holding the plant in position. Storage of food. Flower Pollination, fertilization, fruits, and the scattering of seeds. The new plant in the seed; germination. Production of new plants from stems and roots.

General Survey of the plant kingdom—Illustrated mainly by local plants.

The value of plants and animals to man—Food, fuel, clothes, power, building materials, medicines, pleasure, scavenging of waste materials (dogs, jackals, cows, bacteria, fungi).

Animals and plants that are harmful to man.

1. That feed on man and animals : ticks, lice, fleas, bedbugs, mosquitoes, intestinal worms.
2. That feed on plants : destruction of plants by insects.
3. That cause disease in man and animals: animal parasites (malaria parasite, Kala azar, hookworm) and bacteria (cholera, plague, smallpox, tuberculosis, rabies, etc.).
4. That cause diseases in plants; parasitic fungi (mildews, smuts, rusts, etc.).
5. That carry disease, insects (flies, fleas, sandflies, mosquitoes), rats,

6. That destroy property : rats; white-ants; beetles, bacteria and molds in food; wood-rooting fungi, etc.

7. Control of parasites, disease-producing organisms and other pests; by nature (birds and insect-eating insects) and by man.

IV.—Practical Work.

The following list of experiments indicates the minimum amount of practical work required to be done by each student. Other experiments of equal educational value may be substituted. It should be possible for most teachers to get their students to perform additional experiments. The experiments should be performed individually as far as can be arranged. The teaching of theory should be fully illustrated by experiments and demonstrations which are to be considered an essential part of the teacher's work. The course in Biology will not require extensive expenditure on equipment and materials. Practically all materials can be collected from the local fauna and flora. No microscopic work is expected to be done individually by the pupils; only that may be done by demonstration on the part of the teacher, when he believes it will add to the effectiveness of the work.

Note—A chart giving a list of the experiments to be performed and the date on which each student completes each experiment should be maintained and hung in the laboratory at each school recognised in Elementary Science.

Physics.

To show that the weight of a floating body is equal to the weight of the liquid displaced (using a loaded test tube in a graduated jar with different liquids).

Determination of the radius of a wire by Archimedes' Principle.

Determination of the relative density of (a) bodies which sink in water (b) liquids.

To measure (a) the pressure of the lungs (b) gas supply (if any).

Reflection at a plane mirror.

Focal length of (a) concave mirror, (b) convex lens by parallel rays method.

Relation between image and object produced by a (a) concave mirror, (b) convex lens (no calculations).

Refractive index of glass and liquids.

Refraction through a prism.

Cooling curve of water and wax.

Determination of the apparent expansion of water (by heating water in a flask and noting rise in level of surface).

To compare heat required to melt ice and to boil water.

To show that the loss of heat of one body is equal to the gain of heat in another.

To map lines of force by a small magnet.

Charging an electroscope.

Magnetic effect of a current.

Chemistry.

To observe the action of water on sodium, sodium chloride, potassium nitrate, sodium carbonate, copper sulphate.

Crystallisation of a salt.

To observe the action of heat on potassium nitrate, calcium carbonate, copper sulphate, iron, zinc, tin, lead, mercury, sulphur, phosphorus.

To determine the change in weight due to oxidation when a substance is sufficiently heated in air.

To find the proportion of oxygen and nitrogen in air.

To prepare oxygen from potassium chlorate and study its properties.

To prepare hydrogen from zinc and sulphuric acid and study its properties.

To prepare chlorine from manganese dioxide and hydrochloric acid.

To prepare hydrochloric acid from sodium chloride and sulphuric acid.

To prepare ammonia gas from ammonium chloride and quicklime and study its properties.

To prepare carbon dioxide from limestone and hydrochloric acid and study its properties.

To find the volume of oxygen given off by heating 15 grams of potassium chlorate.

Biology.

Observation of living frogs; habits and mode of life.

Demonstration of more important features of the internal parts. Students should sketch easier parts.

Observation of life history in the field and in the laboratory.

Demonstration of common representatives of the animal kingdom. Students should be encouraged to collect materials; should be developed as a museum activity.

Collection and sketching of common plant forms.

Study and sketch of parts of plants.

Simple experiments, mainly demonstrations, to show accumulation of food (starch) in leaves exposed to light. That water is lost through the leaves. That plants require a continuous supply of water. That water rises through the stem. That CO_2 is given off during respiration. That plants grown in darkness are not green, but become green upon exposure to light. Process of germination; study and sketch (bean, chana and castor bean).

Demonstration of common representatives of the plant kingdom. The project to be developed as for animals.

Observation and collection of insects that feed on cultivated plants.

Collection of fungus, diseases of plants, especially of crop plants; a study of the damage they cause.

Animals that carry disease; their habits and life-histories.

Observation and study of plants and animals that destroy property.

Control of Bacteria, by heat, drying, chemicals.

Examination of the breeding places of mosquitoes, flies, rats. Experiments to show means of destruction.

IV—Hygiene.

NOTE:—Great importance should be attached to practical work wherever the subject admits of this.

Air—Composition of air, ventilation, importance of pure air, impurities of air, diseases caused by impure air.

Water—Composition of water; quantity of water required; source of water-supply, springs, deep wells, surface wells, river, tanks; how water is polluted; how to prevent pollution of water, how to purify water, boiling and filtering.

Food—Composition of food; composition of good diet and its importance leading upto a menu; study of Indian dietaries; preservation of food; cooking of food; drinks and condiments.

Personal Hygiene—Cleanliness of body (hair, nails, teeth, skin, etc.); clothing; exercise; importance of temperance; the use of *pan*, opium, and other drugs; spitting.

Precautions against diseases—Infectious diseases (small-pox, measles and diphtheria etc.); tuberculosis; enteric fever; dysentery and diarrhoea; cholera; plague; malaria; itch; leprosy; ophthalmia (sore eyes); ostiomalacia (softening of bones).

BOOKS PRESCRIBED.—

1. Gregory and Hodges Experimental Science for Indian Schools (Macmillan).
2. Modern Science-Book 1, Physics, G. W. Manfield (Macmillan).
3. Modern Science-Book II, Chemistry, G. W. Manfield (Macmillan).
4. General Science-Simmons and Gale (Macmillan).
5. An Introduction to Biology, Thillympalon (Oxford).

Books recommended.—

6. Everyday Science, Parson (Macmillan).
7. Food-Col, Mc, Carrison,

8. Physiology and Public Health-Banks.
9. Elementary General Science by Hughes and Panton I, II and III (Blackie & Sons. Ltd.).
10. Elementary General Science. A book for teachers—by Hughes (Blackie & Sons. Limited).
11. Practical Science for beginners, by S. Izarul-Hasan (Premier Publishing Co., Delhi).

Full use of lantern slides and museums to make the subject interesting is recommended.

INTERMEDIATE EXAMINATION.

Alternative questions will be set in all question papers for the Intermediate Examination.

The following grouping of subjects is approved for the guidance of students and teachers. The subjects have been so grouped that, while providing a sound general education suitable as an introduction to University studies, they should also fit the students to enter upon higher specialized courses in technical and professional institutions.

General Arts.—Mathematics, Economics, *Civics, Geography, Drawing, a Modern Indian or European Language, Logic, a Classical Language, History and Allied Geography, Histories of Greece and Rome and Allied Geography. (*Any three should be taken*).

General Science.—Mathematics, Drawing, Chemistry, Physics, Biology, Geography, Economics. (*Any three should be taken*).

For Medicine.—Chemistry, Physics and Biology.

For Engineering.—Mathematics, Physics and Chemistry.

For Teaching:—

- (1) History, Civics and Geography.
- (2) History, Geography and Mathematics.
- (3) History, Geography and (Physiology, Hygiene and Child-Study) (*women students*).

* Students taking Civics are advised also to take History.

- (4) Geography, Mathematics and (Physiology, Hygiene and Child-Study) (*women students*).
- (5) Geography, (or Mathematics) Biology, and (Physiology Hygiene and Child study) (*women students*).
- (6) History, Geography and Economics.
- (7) Mathematics, Geography and Economics (or Drawing).
- (8) Mathematics, Physics and Chemistry.
- (9) Mathematics; Physics and Biology.
- (10) Chemistry, Physics and Biology.
- (11) Biology, Physics (or Chemistry) and Drawing.
- (12) (Physiology, Hygiene and Child-Study), a Classical Language and History or Geography or Mathematics (*women students*).
- (13) (Physiology, Hygiene and Child-Study), Drawing and Biology or Geography or a Classical Language (*women students*).

ENGLISH.

There will be one paper of three hours on the prescribed prose and a second paper of three hours on the prescribed poetry course. In each paper there will be one question on "unseen" passages, the prose paper will contain one or more prose unseens and the poetry paper will contain one or more poetical unseens. In both papers the unseen passages will be slightly easier than the difficult passages in the prescribed books.

A third paper of three hours will include (a) translation from a Modern Indian Language into English, and (b) a narrative, descriptive, or reflective piece of composition in English; a choice between these three types of composition will be allowed. In the case of candidates who offer English as their mother-tongue, the third paper will consist of an essay together with questions on English Composition and on History of English Literature from 1500 A.D. as in Hudson's Outline of English Literature (Bell & Co.).

NOTES:—(1) In the case of the books prescribed for detailed study, candidates will be expected to show a close familiarity with the text including meanings of words, the construction of sentences, historical and other allusions, as well as a knowledge and understanding of the subject-matter. They should be able to indicate contexts and to paraphrase and explain any difficult passages in simple and correct English.

(2) In the case of the books prescribed for general study, a detailed knowledge of the text will not be required, but candidates will be expected to show that they have read the course with intelligence and have a general knowledge of the subject-matter.

(3) Half the total of the marks will be allotted to the portion for detailed study, 30 per cent to the portion of general study, and 20 per cent to unseen passages and grammar.

(4) Grammatical questions will be asked including parsing, analysis, the sequence of tenses and conversion of the direct and indirect forms of speech and also questions on the figures of speech and the elements of prosody.

(5) The attention of candidates is drawn to the fact that examiners have been instructed to deduct marks for inaccuracy in English.

The Text-Books prescribed are as follows:—

Prose.—For Detailed Study:

Quentin Durward, abridged by N. K. Sidhanta, M. A.
(Ram Prasad and Brothers, Agra).

The following selections from the text-book published by the Board:—(To be had from the Indian Press, Allahabad).

1. Adventures of a Shilling.
2. Of Avarice.
3. On Conversation.
4. A Happy Home.
5. Rural Life in England.
6. The Elements of Friendship.
7. The Place of Art in Education.
8. Portrait of a Gentleman.
9. A Bully Served Out.
10. Greatness.
11. The Open Sky.
12. Libraries.
13. A Study of Benares.
14. Culture and Character.
15. Homeric Life.
16. The Advantage of Having One Leg.
17. Bereavements.
18. On Umbrella Morals.
19. Pan's Pipes.
20. The Queen's Bereavement.

For Rapid Reading.—

Selected English Stories, Vol. II, edited by John Hampden
(Macmillan's English Literature series, no. 133).

Foot-prints of the Great by Cyril Hall (Blackie & Sons.)

Poetry.—For Detailed Study :

The following selections from the text-book published by the Board:—(To be had from the Indian Press, Allahabad).

1. Elegy Written in a Country Churchyard.
2. The Ocean.
3. The Rime of the Ancient Mariner.
4. The Vale of Cashmere.
5. Morte D' Arthur.
6. Sohrab and Rustam.
7. Unconquerable.
8. The Soldier.
9. A Passer-by.
10. The Royal Tombs of Golconda.
11. The Lake Isle of Innisfree.
12. Where the Mind is Without Fear.
13. For the Fallen.
14. Leisure.
15. A Consecration.

For Rapid Reading.—

Shakespear's Julius Caesar.

MATHEMATICS.

There will be three papers of three hours each; one paper in Algebra and Trigonometry, a second in Mensuration, Analytical Geometry and Elementary Differential Calculus and a third on Elementary Dynamics.

(1) (a) **Algebra.**—Quadratic Equations involving two or more unknown quantities; the theory of Quadratic Equations and of Expressions of the second degree; Imaginary Expressions; Arithmetical, Geometrical and Harmonical Progressions; Permutations and Combinations; Theory of Indices and Logarithms; Proof of Binomial Theorem for a Positive Integral Index and the use of Binomial and Exponential Theorems for any Index and of the Logarithmic Theorem.

(b) **Trigonometry.**—Including solution of triangles and simple problems on inscribed, circumscribed and escribed circles.

(2) (a) **Elementary Differential Calculus:** Differential co-efficient, Geometrical significance of $\frac{dy}{dx}$ Differentiation of a sum, product and Quotient, Differentiation of x^n , e^x and $\log e^x$ and trigonometrical circular functions; Simple cases of differentiation of a function of a function.

(b) **Analytical Geometry.**—Straight line, circle, and the simple properties of parabola treated by rectangular co-ordinates only.

(c) **Mensuration of Solids**—Surfaces and volumes of parallelopipeds and right prisms, pyramids, circular cylinders, and cones, spheres, and spherical segments; frusta of pyramids, cones and spheres.

The use of Trigonometry and Logarithms will be permitted in solving numerical problems.

No proofs of the formulæ used will be required.

(3) **Dynamics and Statics.**—Velocity; composition of Velocities; Relative Velocity; Acceleration, Rectilinear Motion under uniform Acceleration, composition of Accelerations; Newton's Laws of Motion, Rectilinear Motion under gravity in a vertical and down an inclined plane; Motion of two masses connected by a string passing over a pulley; projectiles; direct impact of smooth bodies; definition and calculation of Kinetic Energy; co-planar forces, parallel and non-parallel, and their composition; equilibrium of a body under three forces; moments; conditions of equilibrium of a body under a system of co-planar forces and simple examples; Centre of gravity; Friction; work and power; simple machines (lever, balance, systems of pulleys, wheel and axle).

The following books are suggested (*not prescribed*):—

1. Lectures on College Algebra by S. B. Dandekar (Vinayak & Co., Indore City).
2. School Algebra, Part II, by Paterson (Clarendon Press).
3. School Geometry, Hall and Stevenson, Part VI (Macmillan).
4. Coordinate Geometry—Smith or Loney (Macmillan).

5. Higher Algebra, Chapters I—XVII, by Hall and Knight (Macmillan).
6. Plane Trigonometry, Part I, by Loney (Cambridge University Press.)
7. Basu and Karmakar-Statics (Indian Press, Allahabad).
8. Algebra for Colleges by Athavale and Shah (Macmillan).
9. Algebra for Intermediate Colleges, revised edition, by Butt (Gautam Brothers, Cawnpore).
10. Plane Trigonometry by S. D. Pande (Indian Press, Allahabad). Price Rs. 2-8-0.

CHEMISTRY.

N. B —Candidates will be required to pass in the theoretical as well as practical part of each Science subject.

There will be two papers of three hours each and a practical examination. The first paper will include metals and non-metals and the second paper General Chemistry and Organic Chemistry.

The following syllabus is prescribed.—

The course for the High School Examination of 1941 with the following additions:—

Elementary and compound substances, mixtures, solutions, chemical action, the laws of chemical combination, simple methods of the determination of equivalent weights, atomic and molecular weights, vapour density; atomic theory and Avogadro's hypothesis, combination of gases by volume.

Valency, relation between equivalent and atomic weights, simple methods of determination of atomic weights, Dulong and Petit's law, Boyle's law, Charles' law, vapour pressure, diffusion.

Chemical symbols, formulæ and equations, calculations of an easy nature.

Oxidation and reduction.

Elementary ideas as to the nature of dissociation in gases and electrolytic dissociation theory. Hydrolysis of salts,

The outlines of the Periodic law studied from elements prescribed in the course.

Preparation and important properties of the following elements and compounds and proofs of the composition of the substances marked*:—

Hydrogen, oxygen, water*, ozone*, hydrogen dioxide, nitrogen, the atmosphere*, the effects of animal and vegetable life upon its composition, ammonia*, nitric acid and nitrates, nitrous acid and nitrites, nitrous* and nitric* oxides, nitrogen peroxide, carbon, carbon dioxide*, carbon monoxide*, elementary ideas about combustion and structure of flame, coal gas*, chlorine, hydrochloric acid*, chlorides, chlorine peroxide, chloric acid and chlorates, bromine, iodine, their hydracids and salts.

Sulphur, hydrogen sulphide*, sulphur dioxide* and trioxide, sulphuric acid and sulphates, sulphurous acid and sulphites.

Phosphorus, hydrogen phosphide, phosphorus trioxide and pentoxide and orthophosphoric acid.

Silica, silicates of Na, K and Ca; glass.

Sodium, potassium, their hydroxides, chlorides, nitrates, carbonates and sulphates.

Calcium, strontium, barium, magnesium and zinc and their oxides, hydroxides, chlorides, sulphates, carbonates and nitrates.

Lead, the outlines of its metallurgy, its chlorides, sulphate, nitrate and acetate.

Copper, the outlines of its metallurgy, its oxides, chlorides, sulphate, nitrate and sulphides.

Iron, the outlines of its metallurgy, its oxides (FeO , Fe_2O_3 , Fe_3O_4), chlorides, sulphates and sulphides.

Mercury, its oxides, chlorides, nitrates and sulphides.

Aluminium, the outlines of its metallurgy, its oxide, chloride and sulphate.

Arsenic, antimony and their hydrides, oxides, chlorides and sulphides,

Tin, its oxides, chlorides and sulphides.

Silver, the outlines of its metallurgy, its oxide, hydroxide, chloride, bromide, iodide, nitrate and sulphate.

Photography and silvering of mirrors.

Organic:—

A.—Purification of organic compounds explaining the processes such as fractional distillation, steam distillation, extraction with solvents.

B.—The preparation, important properties and structure of the following compounds:—

1. Methane and ethane
2. Methyl alcohol and ethyl alcohol.
3. Chloroform and iodoform.
4. Formaldehyde, acetaldehyde and acetone.
5. Formic acid and acetic acid.
6. Methylamine and ethylamine.
7. Methyl and ethyl acetates and halides.
8. Acetamide, acetyl chloride and acetic anhydride.
9. Ethylene and acetylene.
10. Coal tar distillation, benzene, nitrobenzene, phenol, aniline, benzaldehyde and benzoic acid.

C.—The simple properties of the following:—

Ether, glycerol, oxalic acid, tartaric acid, starch, cane sugar, grape sugar and urea.

D.—Manufacture of sugar, alcohol, wood spirit, vinegar, petroleum and soap.

Practical Work.

Students will be examined in Practical Chemistry.

Students are expected to perform the following experiments in the laboratory. An account of each experiment must be written by the student in a special notebook, which will be examined by the examiners. This notebook should be kept in the charge of laboratory instructor and each account of an

Proof of the structure of 'ethyl alcohol and acetic acid.'

experiment should be corrected, signed and dated by him. The principal of a college will be responsible for the production of this note-book when demanded by the proper authorities.

The *practical* course is as follows:—

1. Such practical work as is required for the High School Examination of 1941.

2. Analysis of simple salts soluble in water or hydrochloric acid composed of acids and bases mentioned in the following list:—Ag, Pb, Hg, Cu, Cd, Bi, As, Sb, Sn, Fe, Al, Cr, Ni, Co, Zn, Mn, Mg, Ca, Sr, Ba, Na, K, NH_4 , Cl, Br, I, ClO_3 , SO_4 , SO_3 , NO_3 , NO_2 , PO_4 , S, CO_3 , C_2O_4 and acetate (*dry and wet methods*).

3. Analysis of a mixture (soluble in water or hydrochloric acid) of four radicals, two basic and two acidic not containing two metals of the same group and not containing a phosphate or an oxalate.

4. Preparation and purification of simple salts involving no special difficulty.

5. Simple gravimetric and volumetric estimations, such as estimation of alkalis, acids and alkaline carbonates by titration and simple gravimetric experiments such as change in mass on oxidation of magnesium, change of weight on heating (1) barium chloride, (2) copper carbonate and (3) ferrous ammonium sulphate. Titration of potassium permanganate with oxalic acid or with ferrous iron.

6. Determination of melting and boiling points.

7. Qualitative detection of nitrogen, sulphur, chlorine, bromine or iodine, alone or together, in an organic compound.

Books suggested:—

1. Organic Chemistry by Agarwal (S. Chand & Co., Delhi).
2. Organic Chemistry—Perkin and Kipping, Part I and Part II (W. and R. Chambers Ltd, London).
3. Holmyard's Inorganic Chemistry. (Edward Arnold and Co. London).

4. Practical Chemistry for Intermediate Students by Sharma (National Book House, Agra).
5. Systematic Inorganic Chemistry by N. Singh and J. Singh (Atmaram & Sons, Lahore).
6. Organic Chemistry by Chaman Lal Mital (Laxmi-Narayan Agrawal, Agra).
7. A Short System of Qualitative Analysis by Caven (Blackie and Sons).
8. Qualitative Analysis of simple Inorganic Mixture by Professor Chaman Lal Mital (Laxmi Narayan Agrawal, Agra).
9. Qualitative Chemical Analysis by Param Sukh.

Partington's Everyday Chemistry (Macmillan & Co) is recommended for general reading.

Intermediate Chemistry by Lowry and Cavell (Macmillan & Co.) is recommended as a reference book for teachers.

PHYSICS.

N, B—Candidates will be required to pass in the theoretical as well as practical part of each Science subject.

There will be two papers of three hours each as follows:—

1st Paper—Properties of matter, Heat and Light.

2nd Paper—Sound, Electricity and Magnetism.

The following syllabus is recommended:—

General properties of matter.—Fundamental units and their measurement. Principle of Balance. Verniers, Callipers, Screwgauge, Spherometer, Volume, Density, Specific gravity, Fluid pressure, Principle of Archimedes, Nicholson's hydrometer, Barometer, Boyle's law, Pumps, Siphon. Elementary notions of volume, elasticity and Young's modulus in the case of solids. Isothermal and adiabatic elasticities of gases. Gravitation, simple harmonic motion. Pendulum. Value of "g".

Heat.—Temperature, thermometers, Calorimetry, Specific heat. Latent heat. Expansion of solids, liquids and gases. Vapour pressure. Hygrometry. Change of state. Laws of

unsaturated and saturated vapours. Conduction. Convection. Radiation. Reflection and absorption of heat. Isothermal and adiabatic changes. Specific heat at constant volume and constant pressure. Relation of heat to work. Determination of J.

Light.—Laws of propagation. Reflection and refraction from plane and spherical surfaces. Dispersion. Spectra, Fraunhofer's lines, Telescope, Microscope, Spectrometer, Photometry. Phosphorescence. Fluorescence. Velocity of light.

Sound.—Transverse and longitudinal waves. Nature of sound waves. Intensity, Pitch, Quality. Mode of propagation. Reflection. Refraction. Stationary waves, Beats. Resonance. Vibrations of strings and air columns. Monochord and organ pipes. Determination of velocity in solids, liquids and gases. Musical scale.

Electricity and Magnetism.—Magnetisation. Permanent magnets. Magnetic induction. Unit of magnetism. Magnetic field. Lines of force and lines of induction. Tangent A and B positions of Gauss. Deflection and Vibration Magnetometers. Magnetic moments. Earth as a Magnet. Magnetic elements, H. Declination and Dip and their determination. Electrostatic unit of quantity. Coulomb's law of force. Electric field. Gold leaf electroscope. Surface density. Potential, Capacity. Leyden jar. Capacity of parallel plate condenser. Electrophorus. Wimshurst's machine.

Voltaic cell. Electric current and its magnetic effects. E. M. Unit of current, Galvanometers. Ammeters. Voltmeters. Ohm's law and its verification. Unit of resistance and Potential Difference. Specific resistance. Practical and absolute units. Determination of resistance. Wheatstone's bridge. P. O. Box. Heating effect of current. Joule's law. Determination of J. Electric glow lamp. Electric arc. Chemical effects of current. Faraday's laws of Electrolysis. Electro-chemical equivalent. Voltmeters. Electro-magnetic-relations. Electro-magnetic induction. Induction coil. Simple dynamo. Motor. Electric Telegraph. Telephone, Microphone, Thermopile,

A. Text-Books for the use of the students.—

1. A Text-Book of Physics by R. S. Willows (Published by Messrs. Arnold and Co.).
2. R. A. Houston's Text-Book of Physics (Longmans Green and Co., Bombay).
3. A Text-book of Intermediate Physics by F. D. Murad and R. S. Bhargava (Bhargava and Sons, Chandausi).

B. Books for teachers' reference.—

1. Physics series by Rajanikant De (The Book Co. Ltd., College Square, Calcutta).
2. Intermediate Physics by G. L. Datta (Atma Ram and Sons, Lahore).
3. Intermediate Physics by A N. Puri and Sant Ram (S. Chand and Bros., Booksellers, Delhi).
4. Properties of Matter by M. L. Jaiswal (Laxmi Narain Agarwal, Agra).
5. First Course in Physics - Millikan and Gale (Gim & Co.).
6. Experimental Science, Part I (Physics) by Browne (Cambridge University Press).
7. Essentials of Modern Physics by Charles E. Dull (Harrap and Co., London).
8. Everyday Physics by H.E. Hadley (Macmillan & Co.).
9. A Text-book of Physics by D. B. Deodhar (The Indian Press, Allal abad).

There will be also an examination in practical work.

The laboratory course is indicated by the subjoined list of experiments. An account of each experiment must be written by the student in a special note-book which will be examined. The account of each experiment should be corrected, signed and dated by the demonstrator and the books should be kept in his charge.

LIST OF EXPERIMENTS.

Mechanics.—Applications of the Triangle of Forces, Equilibrium of Parallel Forces. Principle of moments. Determination of coefficient of Friction. Determination of "g" by the pendulum,

Nicholson's hydrometer. Determination of Density (a) by Hydrostatic Balance and (b) by Specific Gravity Bottle. Determination of Young's modulus by Stretching.

General properties of Matter.—Measurements of mass by the balance. Use of the Spherometer. Use of the Screw Gauge. Use of the Callipers. Reading the Barometer.

Heat.—Testing fixed points of Thermometers. Determination of Specific Heats. Determination of Latent Heats. Construction of a graph illustrating the rate of cooling of a liquid. Verification of Boyle's law. Determination of the coefficient of linear expansion. Determination of melting points.

Light.—Reflection and refraction of light at plane and spherical surfaces. Determination of refractive indices. Focal lengths of mirrors and lenses.

Sound.—Determination of the velocity of sound by resonance. Determination of the frequency of a fork by sonometer.

Magnetism.—Mapping out lines of force by a small magnet. Determination of neutral points in a magnetic field. Experiments with deflection magnetometer and experiments with vibration magnetometer.

Electricity.—Variation of magnetic force at the centre of a coil with radius, number of turns and strength of current. Determination of resistance by the use of Wheatstone's bridge. Determination of resistance by the use of Ammeter and Voltmeter. Combination of cells in series and parallel. Comparison of electromotive forces by the potentiometer.

Detailed accounts of the method of performing the above experiments will be found in the following books:—

- (1) Willows' Text-book of Physics (Arnold).
- (2) Practical Physics by H. N. Gupta, revised by K. C. Banerji (Shaw and Co. Agra).
- (3) Practical Physics by B. N. Ghose (Ram Narain Lall, Allahabad).
- (4) Practical Physics by M. L. Jaiswal (Lakshmi Narain Agarwal, Agra).

- (5) Intermediate Practical Physics by G. R. Jain, Victoria College, Gwalior (obtainable from the author).

BIOLOGY.

N. B —Candidates will be required to pass in the theoretical as well as practical part of each Science subject

There will be two papers of three hours each and a practical examination; the first paper on Zoology and the second paper on Botany.

The following syllabus is prescribed. Instructions for the teaching of Biology are appended.

I—Zoology.

A.—Living and non-living matter. The distinctive properties of living matter (protoplasm), and its chemical composition. The structure and life history of Amoeba and malarial-parasite as examples of the Protozoa. A general conception of the structure and phenomena of the animal cell; direct and indirect cell division. The union of cell to form tissues and the combination of tissues to form organs.

B.—The structure of Hydra as an example of the Metazoa. The principle of the physiological division of labour and the correlated differentiation of structure.

C.—The structure and bionomics of an Indian earthworm, as an example of a segmented animal.

D.—The structure of the cockroach as a type of Arthropoda. A general survey of the life-history of the mosquito and house-fly, and their economic importance.

E.—The general characters of the Chordata.

F.—The general anatomy, histology and physiology of the various systems or organs in the frog.

G.—An elementary knowledge of the anatomy and osteology of the rabbit or other common mammal. The brain and the eye of the sheep. The skull of the dog may be substituted for that of the rabbit.

H.—A general classification of the animal kingdom with the characteristics of the principle phyla.

1.—Reproduction, sexual and asexual; ova and spermatozoa, oogenesis and spermatogenesis. The elementary facts of the fertilisation and segmentation of the ovum, the outlines of the development and larval history of the frog, the three primary germ-layers and the organs derived from them.

II.—Botany.

A.—The structure and germination of seeds, the morphology of the root, stem and leaf. The chief types of floral structures. The chief types of inflorescence and the common types of fruits.

B.—The parts of a typical vegetable cell, the cell contents and their microchemical reactions, the division of a cell and the chief types of plant tissues. A comparative study of the internal structure of the root, stem and leaf of the Angiosperms. The structure of the reproductive organs of the Angiosperms.

C.—The structure of *Bacillus subtilis* and the modes of the nutrition among the Bacteria.

D.—The structure, physiology and life-histories of *Ulothrix*, *Spirogyra*, *Mucor* and *Yeast*.

E.—The structure and life-histories of a moss, a fern and the phenomenon of alternation of generations.

F.—The life-history of Angiosperms. General structure of flowers and fruits and recognition and economic importance of the following families :—

Cruciferae, Malvaceae, Leguminosae, Solanaceae and Umbelliferae and Liliaceae.

G.—An outline of the classification of the vegetable kingdom to illustrate grades of structure and methods of reproduction.

H.—Elementary plant physiology; stability of the plant body; the usual constituents of plant food; assimilation; transpiration; respiration; the main facts about growth; the chief types of movements.

Practical Work.

Students are expected to keep a record of all practical work in a special laboratory sketch book, which will be liable to examination by the examiners. The Laboratory instructors should sign the result of each day's practical work.

A.—The microscopical study of *Amoeba* and *Hydra*; the study of hydra by means of transverse and longitudinal sections.

The general dissection of the earthworm, cockroach and frog; life history of the mosquito; microscopical study of the chief animal tissues from fresh or prepared preparations of muscle, nerve, cartilage, bone, blood and connective tissue; the microscopical study of the earthworm by means of fresh preparations and transverse sections; a microscopical examination of the kidney, liver, spinal cord, stomach, ovary, testis, intestines, and skin of the frog; the skeleton of the frog.

The osteology of the rabbit, substituting the skull of the dog for that of the rabbit, and the dissection of the alimentary, vascular and reproductive systems of a mammal.

B.—The dissection of plants and parts of plants; the preparation, simple staining and study of microscopical sections of plants. A practical study by microscopical examination and otherwise of bacteria, yeast, *Spirogyra*, *Ulothrix*, *Mucor*, a moss, a fern and the vegetative and reproductive organs of Angiosperms treated in an elementary manner

The description of flowering plant and its parts in semi-technical language.

(Where fresh material cannot be obtained recourse should be had to prepared specimens.)

Text-Books suggested :

1. PARKER and BHATIA Elementary Course of Practical Zoology (Macmillan).
2. HOLMES : Biology of the frog (Macmillan).
3. MARSHALL and HURST : Practical Zoology (Murray).
4. A. C. Datta's class-book of Botany (Oxford University Press).
5. GAGER : Fundamentals of Botany (Blackiston).
6. HUXLEY : Elementary Physiology (Macmillan).
7. SHIPLEY : Life Ditto.
8. TRANSEAU : General Botany (World Book Company, New York).

9. **BAHL K.N.:** Indian Zoological memories, I Pheretima, (Methodist Publishing House, Lucknow, 1926. Price Re. 1-8-0).
10. **SMITH, OVERTON and OTHERS :** Text-book of General Botany (second edition) (Macmillan & Company).
11. **Eessentials of Zoology** by Meek and Kohli (Longmans Green & Co.).

APPENDIX.

Instructions for the teaching of Biology.

1. The teacher must consider the purpose for which he teaches Biology—to prepare students for the university, for medical and forest colleges, and for more intelligent and more joyful living. Biology deals with the world of life surrounding the student, and every effort should be made to present Biology as a living subject rather than as a vast mass of unrelated and (to the students) often meaningless facts to be memorized.

2. Teachers may take more liberty in teaching Biology than has been considered possible in the past. They should feel that they are not too rigidly bound by syllabus. Much of what is commonly accepted as the interpretation of the syllabus, and as the proper content of Biology, is a tradition from the past. Teachers may, to a much larger extent, determine for themselves what they are to regard as the proper things to include in their teaching and the proper emphasis to be given to these things, the syllabus will then become a friendly guide.

3. The syllabus is a record of work that ought to be covered and the teacher may take up the various topics in whatever order he thinks best.

4. The additional items in the new syllabus are not intended to enlarge the syllabus, but to shift the emphasis given to the various parts of it. For instance, it is not intended that the cockroach shall be studied in minute detail, but that it shall be made the basis for acquaintance with the great assemblage of arthropods. The mosquito is to illustrate metamorphosis, and is used because of the great importance of mosquitoes to man,

because it can be observed anywhere, and because it can be readily reared in the laboratory. The mosquito is to illustrate also the carrying of disease by insects, and the malaria parasite is an illustration of a disease-producing organism transmitted by an insect. The economic and bionomic importance of these animals is to be emphasized, rather than complete details of their structure.

Likewise, it is intended to allow considerable freedom to the teacher by permitting the use of mammalian types that are most readily available. The purpose is to become acquainted with the characteristic features of mammalian anatomy, rather than with minute details of one animal only, to the exclusion of all others.

In Botany more emphasis should be put on what plants do, and how they work, than on extensive study of various growth forms, which have little meaning for the students unless correlated with the great problems of plant economy. Moss is added to the syllabus as a simple, clear, and easily accessible plant illustrating sex organs and alternation of generations; it should be treated from this point of view, and no effort should be made to consider its anatomy in the detail usually regarded necessary in the fern.

DRAWING.

There will be three papers each of three hours' duration.

- (1) Object Drawing (2) Advanced Design (3) Solid
Geometrical Drawing

Syllabus.

- I. Object Drawing—(a) In pastels on tinted paper.
(b) In Water-colours on white
cartridge paper.

Progressive work in groups of the common objects listed for the High School Examination, such as plate of oranges, bananas and other fruits, open book, attache cases and boxes, hockey sticks, simple furniture etc.

II. Advanced Design.—

- (a) Development of motifs from studies of nature. The more difficult flowers, leaves with fruit and flowers, compound leaves, trees in water colours on white cartridge paper
- (b) Geometrical patterns in water colours and India ink.
- (c) Lettering somewhat advanced in Indian ink.

Note.—The courses for papers I and II will involve instruction in the art of blending colours, colour harmonies, colour schemes and shadows together with technicalities, such as tint-softening, blending, direct colouring, light tint on dark and dark on light, use of opaque colours and back grounds.

III. Solid Geometrical Drawing—

Chapter from plane Geometry on the curves used in Geometrical and Mechanical drawings such as Hyperbola, Parabola and Cycloids the involute various spirals, etc., and chapters on Arcs, Loci and Vectors.

Solid Geometry, simple solids, plans, elevations, section and sectional elevations of such isometric orthographical projections. Elementary perspective drawing. All forms of plain and diagonal scales.

Lettering: for headings and descriptions.

Text-Books recommended:

- (a) Rankin H. A.: Pastel work, Vol. I and II (Messrs. Issac Pitman & Sons), Price Rs. 4/- per Vol.
- (b) Buchanan J. Y.: Art Drawing for Indian Schools, London & Bombay, Macmillan & Co.
- (c) Vinall: Natural and Common Objects in Primary Drawing (Blackie & Sons).
- (d) Tompkins, A. G. : Pastel for the Standards, II and III, London, Sir Issac Pitman & Sons.

Design.—

- (a) Carrol, J: Drawing of Foliage and Foliated Design (Burn and Oates Ltd., 28, Orchard Street, London, W).
- (b) Carrol, J.: Pattern Drawing and Design, (Burn and Oates Ltd., 28, Orchard Street, London, W.).
- (c) Steely Frank.: Nature Drawing and Design; (G. W. Bacon & Co., Norwich St., London).

- (d) **Steely Frank: Lettering for Schools and Colleges** (G W. Bacon & Co., Norwich St., Fetter Lane, London) (available from Messrs Blackie & Sons Bombay).
- (e) **A Manual of Lettering** By M. M. Mehta, Bombay (J. V. Navalakhi & Co.) Price 0-12-0.
- (f) **Practical Design and Lettering** by R. N. Saksena (Kanhya Lal & Sons, Jaipur).

Geometrical Drawing.—

- (a) **Morris I. H. and Jesse, W.: Geometrical Drawing for Art students.**—Longmans Green & Co., Bombay and London.
- (b) **New Practical Geometry** by Hazura Singh Khalsa, Art Master, Govt. High School, Agra. Publisher—Lakshmi Narain Agrawal, Educational Publisher, Agra.
- (c) **Veale: Roorke Drawing Manual**—Roorke (U. P) Thompson College Book Depot.
- (d) **Modern Art Geometry for Schools and Colleges** by R. Singhal (Ram Narain Lal, Allahabad).

ECONOMICS.

There shall be two papers of three hours each. The first paper shall cover Production, Consumption, and Taxation, and the second paper Exchange and Distribution.

Half of the total marks in each paper shall be on the general principles of Economics and the other half on the facts of Indian economic life.

Introductory: subject matter of Economics. Wants as basis of economic life. Development of economic life. Divisions of economic study. Definitions: Utility, Wealth, Capital, Income, Value, Price.

Production: meaning. Gross and net product. Factors of production. External and internal economies.

Land: factors affecting its productivity. Natural resources of India. The monsoon. Famines. Soils. Agricultural products. Minerals. Forest. Power.

Labour: factors affecting efficiency. Indian labour and its mobility. Density of population in India and its causes. Standard of living.

Capital: causes of accumulation. Machinery. Agricultural capital in India. Indian railways: their effects. Irrigation in India.

Organisation: division of labour, advantages and disadvantages. The law of productivity. Large and small scale production, advantages, limitations. Limited liability company.

Exchange: barter. Gains of exchange. Market. Extent of the market. Theory of value. Marginal utility and marginal cost of production. Demand price. Supply price.

Money: definition, functions, precious metals, suitable coinage. Brassage and seigniorage. Debasement. Depreciation. Token money. Legal tender. Gresham's law. Paper money: convertible (covered and fiduciary) and inconvertible.

Credit: hundies and bills of exchange. Discount. Bank: its functions. Cheque. Brief description of Indian banking: The Reserve Bank of India, the Imperial Bank of India, joint stock banks, exchange banks, Government treasuries, indigenous banks, savings banks. Co-operative credit: principles. Indian system: organisation, benefits. Brief outline of Indian currency.

Distribution: problem of distribution.

Rent: definition, cause. Extensive and intensive cultivation. Factors affecting rent. Land tenure in India: *zamindari*, *ryotwari*, permanent and temporary settlements.

Wages: marginal productivity. Factors affecting wages. Nominal and real wages. Time and piece wages.

Interest : why paid, factors determining interest, gross and net interest.

Profit : analysis : risk, remuneration, surplus.

Consumption : meaning. Classification into necessities, comforts, and luxuries. Law of diminishing utility. Elastic and inelastic demand. Consumer's surplus. Law of equi-marginal

utility. Family budgets. Engel's law of consumption. Spending, saving, and hoarding. Social effects of spending. The co-operative store.

Taxation : characteristics of a tax. Canons of taxation. Direct and indirect taxes. Main heads of Indian revenue and expenditure : Central, Provincial, and local.

Books recommended :

T. H. Penson : *The Economics of Everyday Life*, Parts I and II (Cambridge University Press).

P. N. Banerji : *Introduction to the study of Indian Economics*. (Macmillan & Co., Bombay).

CIVICS.

There will be two papers of three hours each, the first paper on Civic Theory and the second paper on Indian Civics. Paper I—Civic Theory.

Syllabus.—

The relation of Civics to the other Social Sciences—Sociology, Ethics, Politics, and Economics.

Nature of Society.—The State in relation to Society. Functions and structure of Government, Forms of Government, The place of local institutions in political life.

Meaning of citizenship.—Duties and rights of citizenship with special reference to Indian conditions. Benefits from Society, State or local institutions to the citizen. A citizen's participation in the life of his town, his province and his country. The inter-relations of the individual, the state, religious organisation, cultural institutions and economic groups, Social harmony.

Idea of internationalism—League of Nations.

The following books are recommended :—

1. White : *Philosophy of Citizenship* (George Allen & Unwin).
2. Bose-mullick: *Elements of Civics* (Gaya Persad & Sons, Agra).

3. Ram and Sharma : Elements of Civics (G. R. Bhargava & Sons, Chandausi).
4. Beni Prasad : A. B. C. of Civics (Indian Press, Allahabad).
5. Srinivas Sastri : Kamala lectures on Indian Citizenship (Calcutta University Publication).

Paper II—Indian Civics.

Syllabus:—

Structure of Indian Government, Central and Provincial.
Working of Indian Government. Indian Municipalities. District Boards and Village Panchayats.
Education in India. Indian Social and Economic life.
Development of industrial and commercial systems in India. Cultural movements in modern India.
National movements in modern India.

Organisation of Indian States and their relations with the Crown and with British India.

Indian Federation.

The Government of India Act of 1935 is to be studied in this paper.

The following books are recommended :—

1. M. R. Palande : Introduction to Indian Administration (Edition of 1937) (Humphrey Milford, Oxford University Press).
2. G. N. Joshi: Indian Administration (Macmillan).
3. Rama Shanker Prasad: India Social and Political (Ram Narain Lal, Allahabad).
4. M. B. L. Bhargava: Civic Life of India (the Upper India Publishing House Ltd., Lucknow).

HISTORY AND ALLIED GEOGRAPHY.

N. B —Candidates are expected to draw freehand maps of India and of Great Britain and Ireland.

There will be two papers of three hours each; one on Indian History and the other on European or English History.

Paper I—Indian History.

Indian History from the earliest times to 1919.

The following books indicating the scope and standard of knowledge required are recommended :—

Usuf Ali : The Making of India (Macmillan).

Aiyangar : Pre-Muselman India (Longmans Green & Co.).

Garret and Kohli : Indian History Part II (Muham-
medan Period).

Roberts : Historical Geography of the British Empire,
Vol. VII, Parts I and II (Clarendon Press, Oxford).

Paper II—European History.

Either. (a) outlines of Modern European History from about 1500 A. D. to 1919.

Books Suggested :

1. Ramsay Muir : Atlas of European History.
2. A. J. Grant : History of Europe (Longmans Green & Co.).
3. Thatcher and Schwill : History of Europe (John Murray, London).
4. S. R. Robinson : History of Western Europe (Ginn & Co. Boston, New York U. S. A.).

Or (b) Modern English History, from 1485 A. D. to 1919.

Books Suggested :

1. Ramsay Muir : British History, Parts II and III (Longmans Green & Co.),
2. Warner and Marten : Ground work of British History (Blackie & Son Ltd.) (latest edition).
3. R. B. Mowat : A New History of Great Britain (Oxford University Press).
4. S. R. Gardiner : A School Atlas of English History (Longmans Green & Co., Bombay).
5. A Concise History of Britain by Robert M. Rayner (Longmans Green & Co.).

HISTORIES OF GREECE AND ROME AND ALLIED GEOGRAPHY.

There will be two papers of three hours each.

Paper 1.—History of Greece up to the death of Alexander the Great.

Books Suggested.—

1. G. D. Edmonds : Greek History for Schools (Cambridge University Press).
2. J. B. Bury : Greek History for Beginners (Macmillan).
3. E. Abbot : Pericles (G. Putnam & Sons).

Paper II—History of Rome up to the death of Augustus.

Books Suggested —

1. E. E. Byrant : A Short History of Rome (Cambridge University Press).
2. Shuckburgh : Augustus. (T. Fisher Unevin Adelphi Terrace, London).
3. Shuckburgh : A Short History of Rome for Beginners (Macmillan).
4. Pelham : Outlines of Roman History.

GEOGRAPHY.

There will be two papers of three hours each. The first paper will contain questions on part I of the syllabus and the second paper on part II and III of the syllabus.

Note: Candidates are expected to illustrate their answers wherever possible by making sketch maps and diagrams.

SYLLABUS.

- I. Regional Geography; World Geography (Major natural regions) with intensive study of.—

(1) Eurasia with special reference to British Isles, France, Germany, Japan, China and Indian Empire.

(2) North America with special reference to North-Eastern Industrial Areas and the United States east of the Mississippi.

Note: Candidates are expected to have as much knowledge of the principles of the Geography physical and human, as is necessary for intelligent understanding of the regions of the world.

II. *Map work.*—

Map work should be carried on in connection with the general and the regional geography and should include: the study of topographical maps (including section drawing) as exemplified by one inch to a mile and $\frac{1}{4}$ inch to a mile survey maps of India, the use and study of atlas maps, including the advantages and disadvantages of the principal projections employed, climate and weather maps, cartographical and diagrammatic representation of Geographical data.

III. Economic Geography with special reference to India.

The world position of India. Its natural resources, economic development, exports and imports. Man's influence over natural conditions. Irrigation. Communications. Manufactures. Industries. Growth of towns.

World distribution of the major products of commerce—wheat, rice, tea, coffee, the vine, cotton, jute, rubber, tobacco, conditions of their growth. World supply of coal, iron, petroleum.

Books recommended.—

I—Russel: North America (Oxford) Price 10s. 6d.

Rodwell, Jones and Bryan: North America (Methuen).
Price 21s.

Stamp: Asia (Methuen).

Lyde: Europe (Macmillan).

LaBourde: A Geography of Western Europe University of London).

Great Britain—Essays in Regional Geography (Cambridge University Press).

Mackinder. Britain and the British Seas (Oxford).
Price 10s. 6d.

George: Relations of History and Geography (Oxford).
Price 5s.

Little: The Far East (Oxford). Price 10s. 6d.

Griffith Taylor: Australia—Physiographic and Economic (Clarendon Press). Price 3s. 6d.

McMunn and Coster: A Regional Geography of Europe (Oxford). Price 4s. 6d.

Unstead and Taylor: Regional
and General Geography for
Students (Philip). Price
7s. 6d.

Leonard Brooks: New Regional
Geography, Book IV—The
World (London University Press). Price 7s. 6d.

May be used
as text-books by
the students.

Senior Practical Geography by E. J. Oxford (University of London Press).

Physical Basis of Geography by Scarson (George Harrop and Co., Ltd.).

II—Esson and Philip : Map-reading Made Easy (Philip). Price 3s. 6d.

Dickson : Maps, How they Are Made, How To Read Them (Bacon). Price 6d.

Young and Fairgrieve : A Class-book of Practical Geography (Philip). Price 2s. 6d.

Simmons and Richardson : An Introduction to Practical Geography (Macmillan). Price 4s.

Unstead : Practical Geography (Oxford). Price 4s.

Mort : An Elementary Practical Geography (Blackie). Price 2s. 6d.

Davis : Elementary Meteorology (Ginn). List Price \$2. 50.

Ormsby and Jameson : Mathematical Geography, Volume I (Pitman). Price 5s.

Survey of India : India and adjacent countries, Sheets Nos. 45 and 54, 46 (Indore) and 55 (Bhopal) (Survey of India Map Issue Office Wood Street, Calcutta).

Note.—Daily weather reports of India can be obtained from the Superintendent, Meteorological Office, Poona,

III.—Chisholm : Commercial Geography (Longmans).
Price 25s.

Curr : Commercial Geography (Blackie) Price 4s.

Lyde : Man and His Markets (Macmillan). Price 3s.

Herbertson : Man and His Work. Price 1s. 6d. (A & C
Black Ltd., 4, 5 & 6 Soho Square, London).

Statesman's Year Book (Macmillan.)	}	Every
Price 20s.		two or three
Whitaker's Almanac. Price 4s.	}	years.

Indian Year Book (The Times of India Office, Bombay.)
Price Rs. 7-8. (To be used as a text-book).

Imperial Gazetteer of India Vols. III and IV.
(Oxford). Price 7s. 6d. each.

Atlas of Commercial Geography (Cambridge University Press). Price 3s.

The Oxford Economic Atlas (Oxford). Price Rs. 3/-
Chisholm and Stamp : Commercial Geography
(Longmans).

Stamp : Intermediate Commercial Geography, Volumes
I and II (Longmans).

Additional reference books :

Lake : Physical Geography (Cambridge University Press). Price 12s.

Salisbury : Physiography for Schools, Shorter Course
(Murray). Price 6s.

Davis : Elementary Physical Geography (Ginn). Price
5s. 6d.

Tarr : Elementary Physical Geography (Macmillan)
Price 7s. 6d.

Mill : The Realm of Nature (Murray). Price 5s.
Philip's sets of maps of the various continents and of
India, with explanatory handbooks.

Philip's sets of synthetic maps (for students' use).
Price 1s. per packet. (George Philip and Sons,
London).

Philip's Modern School Atlas of Physical, Political
and Commercial Geography. Price 7s. 6d.
(George Philips and Sons, London).

LOGIC.

There will be two papers of three hours each, the first paper on Deductive Logic and the second paper on either Inductive Logic or Educational Psychology.

Deductive Logic.

The following syllabus is prescribed :—

Definition, scope, and value of Logic. Nature of thinking. The laws of thought. The relation of thought and language. Terms and their classification. Denotation and connotation of terms. The predicables. Formal division and definition. Propositions, their import. Reduction of statements to logical form. Distribution of terms. Nature and forms of inference. The opposition of propositions and various forms of eductions. The syllogism, its figures and moods. Reduction, direct and indirect. Hypothetical, disjunctive and mixed syllogisms. The Dilemma, Enthymeme, Sorites and Epicheirema. Function and value of syllogism. Analysis of deductive arguments. Fallacies.

Inductive Logic.

The following syllabus is prescribed:—

The nature and problem of Induction. Presuppositions of Inductive Inference. Aristotelian Induction and Inductive Syllogism. Causation, its significance and importance in induction. Observation and experiment. Classification and nomenclature. Hypothesis. Imperfect inductions—simple enumeration and analogy. Methods of scientific induction. The deductive method of investigation. Analysis of inductive arguments and application of inductive methods. Explanation and establishment of laws. The relation of induction to deduction. Fallacies.

Books recommended (*not prescribed*) to indicate the standard of treatment of the topics prescribed in the syllabus:

Elements of Logic by Latta and Macbeath (Macmillan & Co.).

Intermediate Logic: Welton and Monahan (Latest edition)
(University Tutorial Press, London).

· Practical Inductive Logic: Sharma and Ray (University
Book Depot, Agra).

Educational Psychology.

The following syllabus is prescribed.—

I. The nature and scope of Psychology. The need of the study of Psychology for Education.

II. Physiological basis of behaviour: the nervous system and the functions of glands.

III Heredity and environment: what is inherited and what is acquired by the individual. Intelligence and intelligence tests.

IV. Reflex action, simple and conditioned: instinctive, impulsive and ideo-motor actions. Special study of fear and play instincts: formation of habits; breaking up old habits; voluntary action; over-impulsive and obstructive types of children; the problem of the obstinate child.

V. Observation: Interest, attention; Fatigue; sensation and perception; Imagery; Memory and training of memory; free and controlled association; imagination. reasoning and intuition.

VI. Feelings: Pleasure, pain; likes and dislikes; emotions; moods and sentiments; the sub-conscious and the unconscious. Repression and Complex, development of healthy sentiments.

VII. Stages of Mental development: Child, adult and senile.

VIII. Behaviour of the individual in the group. Formation of Judgment. Integration of Personality. Building of Character.

Note—All the above-mentioned topics should be specially studied in regard to their importance to Education of children and adults.

Books Recommended—

(a) For students.—

1. Dumville Childmind: (University Tutorial Press).
2. Ross—Ground Work of Educational Psychology
(George G. Harrap and Co. Ltd. Bombay).

(b) For teachers.—

1. Intellectual growth in young children: Susan Isaacs (George Routledge & Sons Ltd. London).
2. Psychology—A study of Mental Life by R. S. Woodworth (Methuen & Co. Ltd., London).
3. Educative Process by W. C. Bagley (Macmillan & Co. London).
4. Hutchinson: the Child and His Problem.

A MODERN INDIAN LANGUAGE.

Hindi.

There will be three papers of three hours each. The first paper will be on Prose, Drama and Translation from English into Hindi. The second paper will be set on Poetry, Alankara and Metre and the third paper will be on Composition (Essay and Unseen) and Supplementary Reading. Books prescribed for Supplementary Reading in paper III are not intended to be taught in the class, but are to be studied by the students under the guidance of teachers. About ten per cent of the total marks in each paper will be reserved for punctuations and spellings. General questions on the authors prescribed will be set in all three papers. Candidates are expected to show elementary knowledge of the principles of criticism and the history of the Hindi literature. In criticism the students need not stick to the views expressed in the introductions of their text-books. Their own views, supported by proper arguments, will be considered more creditable.

Paper I—Prose, Drama, and Translation.

Text-Books prescribed.—

- (1) हिन्दी-निबन्ध नवनीत (Hindi-Nibandh-Navnit) by N. D. Swami (Laxmi Narayan Agarwal, Agra) Price Re. 1/4/-.
- (2) स्कन्द गुप्त (Skand-Gupt) by 'Prasad' (students' edition) (Bharati Bhandar, Benares).
- (3) चयनिका (Chayanika) (Hindi Bhawan, Lahore). Price Re. 1/4/-.

Paper II—Poetry, Alankara and Metre.—

Text-Books prescribed.—

- (1) **अयोध्याकाण्ड** of **गीतावली** by Tulsidas (N. P. Sabha, Benares).
- (2) **सूर-पदावली** (Sur-padavali) by Surdas (Hindi-Sahitya-Sammelan, Prayag).
- (3) **बक-संहार और बन वैभव** (Bak-Samhar aur Bana-Vaibhava) by M. Gupta (Sahitya Sadan, Chirgaon, Jhansi).
- (4) **गुंजन** (Gunjan) by 'Pant' (Bharti Bhandar, Benares). Pieces 1 to 19 and 40 to 46.

Alankaras.—In addition to the Alankaras prescribed for the High School Examination of 1941, the following are prescribed:—

वक्रोक्ति, अपन्हुति, अतिशयोक्ति, दृष्टान्त, समासोक्ति, अप्रस्तुत-प्रशंसा, विरोधाभास, विशेषोक्ति, विभावना, असंगति, स्वभावोक्ति, भ्रान्तिमान्, सन्देह, विषम और सम.

Metre.—The following course in Metre is prescribed:—

दुत-विलम्बित, मालिनी, मन्दाक्रान्ता, चौपाई, रोला, ताटंक, दोहा, सोरठा, उल्लाहा, कुण्डलिया, छप्पय, दुर्मिल सवैया, मालती सवैया, वीर, वसन्ततिलका, घनाक्षरी.

Paper III.—Composition (Unseen and Essay) and Supplementary Reading.

The following books are recommended for Supplementary Reading:—

- (1) **ग्राम्य जीवन की कहानियाँ** (Gramya jeewan ki Kahaniyan) by Prem Chand (Hindi Grantha Ratnakar Karyalaya, Bombay).
- (2) **हर्ष** (Harsha) by Govind Das (Maha Kaushal Sahitya Mandir, Jubbulpore).
- (3) **अनन्त के पथ पर** (Anant ke Path par) by Premi (Bharati Printing Press, Lahore). Price Re. 1/- only.

Books recommended for reference.—

- (1) **हिन्दी साहित्य का इतिहास** (Hindi Sahitya ka Itihas) by Brij Ratna Das, B. A., LL. B., Shri Kamalmani Granthmala Karyalaya, Sundia, Benares: Sole agents, Hindi Sahitya Kutir, Benares City, Benares.
- (2) **साहित्य-शिक्षा** (Sahitya-Shiksha) by Bakshi (Hindi Granth Ratnakar Karyalaya, Bombay).
- (3) **सरल-अलङ्कार** (SaraI Alankar) by N. D. Swami (Indian Press, Allahabad).
- (4) **हिन्दी साहित्य का संक्षिप्त इतिहास** (Hindi Sahitya ka Samkshipt Itihas, Revised edition) by N. D. Vajpai (Indian Press, Allahabad).
- (5) **पिङ्गल-प्रकाश** (Pingal Prakash) by R. D. Mishra (Ratna-shram, Agra). Price Rs. 2.
- (6) **हिन्दी पीयूष भाग २ रा** (Hindi Piyush. part II) by S. N. Chaturvedi and B. N. Sharma (The University Book Depot, Agra). Price-/10/-
- (7) **सूर-साहित्य** (Sur Sahitya) by Hazari Prasad Dwivedi (Madhya Bharat Hindi Sahitya Samiti, Indore).

URDU.

There will be three papers in this language, each of three hours; the first paper will be on the prescribed Prose, the second on the prescribed Poetry and the third on Composition and Supplementary Reading. Critical questions will be set in the first and second papers.

Paper I.—Prose and Grammar.

Prose Text.—

- (a) **انتخاب مضامین سر سید** (Intikhab-i-Mazamin by Sir Syed, Muslim University Press, Aligarh).
- (b) **روایۂ صادقہ** (Royaay Sadiqa by Dr. Nazir Ahmad, Chapters I to 7).
- (c) **نیرنگ خیال حصہ اول از محمد حسین آزاد** (Neyrange-e-Khiyal, Part I, by Mohammed Hussain Azad, Mofid Am Press, Lahore).

Grammar.

مجمع الفوائد (Majma-ul-Fawa'id by Moulvi Syed Hamid Ali, published by Messrs. Ram Dayal Agrawal, Allahabad) (from beginning to page 150).

Paper II.—Poetry, Rhetoric and Metre.—

نظام الادب (Nizamul-Adab by Hamiuddin Khan, published by Laxmi Narayan Agrawal, Agra).

انتخاب سخن از مولوی حامد حسین قادری (Intikhab i-Sukhan by Moulvi Hamid Hasan Qadri, Professor, St. John's College, Agra, published by Laxmi Narayan Agrawal, Agra).

Grammar.—

مجمع الفوائد (Majma-ul-Fawa'id by Maulvi Syed Hamid Ali, published by Ram Dayal Agarwal, Allahabad), Chapter III, page 197 to 254.

*Paper III.—Composition and Supplementary Reading.—**Prose.—*

(a) دهلی کا ایک یادگار مشاعرہ (Delhi-ka aik Yadgar Mushaira by Mirza Farhatullah Beg, B. A., published by the Educational Book House, Civil Lines, Aligarh).

(b) لمعات ادب (Lam-at-i-Adab by Makhmur Akbarbadi—University Book Depot. Agra).

Poetry.—

(a) انتخاب دیوان ذوق (Intikhab-i-Diwan-i-Zoq—Ram Narain Lal, Allahabad). Price 8 annas.

(b) نظم جدید (Nazm-i-Jadid by Professor Abdul Mannan, Patna University, published by Ram Charan Lal, Book-seller, Lucknow), Price-/8/-, with the following omissions.—

Pages 55-56 (مجھ کو نہ چھوڑو)

Pages 57-58 (پہول مالا)

MARATHI.

There will be three papers of three hours each. Candidates are expected to know Marathi Grammar, the elementary

principles of criticism, and a general history of the authors prescribed. Papers will be set and answered in Marathi only.

Ability of the candidates to read and write Modi will be tested by means of a question or questions set in the third paper.

The first paper will contain questions on prose, drama and translation from English into Marathi. The paper will carry 35 marks divided approximately as given below—

(a) Passages for explanation	10
(b) Critical and general questions	15
(c) Translation from English	10
Total ...	35

The second paper of 35 marks will be set on Poetry, Metres and Alankara. Candidates should know the principles of Prosody and the ancient as well as modern Metres occurring in the texts and to know the following Alankaras.—

यमक, अनुप्रास, श्लेष, उपमा, रूपक, उत्प्रेक्षा, अपह्नुति, अनन्वय, अर्थान्तरन्यास, अन्योक्ति, वक्रोक्ति, व्याजस्तुति, अतिशयोक्ति, समासोक्ति, दृष्टान्त, स्वभावोक्ति, विरोधाभास, विभावना, असंगति, सम, विषम, विशेषोक्ति, भ्रान्तिमान्, and संदेह.

Marks will be divided approximately as given below:—

(a) Passages to be explained	10
(b) Critical, general and grammatical questions	15
(c) Metres and Alankaras	10
Total ...	35

The third paper of 30 marks will be on Composition (Essay-writing and Unseen) and Supplementary Reading. In Essay-writing, quality will be the determining factor. The division of marks will be as follows:—

(a) Unseen passages for explanation	10
(b) Essay-writing	10
(c) Questions on Supplementary Reading	10
Total ...	30

PAPER I.

Text-Books prescribed.—

- (1) आशापत्र by रामचन्द्रपंत अमात्य (Bombay Book Depot, Bombay 4).
- (2) इंदुकाळे व सरला भोळे by वा० म० जोशी (To be had from the author, Deccan Gymkhana, Poona 4).
- (3) विस्तवाशीं खेळ by वा० म० जोशी (Deccan Gymkhana, Poona 4).
- (4) वाङ्मय विहार by ना० सी० फडके (हंस प्रकाशन संस्था, Kolhapur).

PAPER II.

Text-Books prescribed.--

- (1) ज्ञानेश्वरी अध्याय १२ बें (Dhamankar of Ramchandra Bhagiratha & Co., Topkhana, Main Road, Indore City).
- (2) भीष्मप्रतिज्ञा and भरतभाव by वामन पंडित (Cooperative Press, Indore City).
- (3) अभागी कमल by गिरीश (M. S. Kanetkar, 565 Narayan Peth, Poona City).
- (4) The following five ballads from—मराठ्यांचे पोवाडे, edited by य० न० केळकर (To be had from the author, Tilak Road, Poona).
 - (1) अज्ञानदास—अफजलखानाच्या वधाचा पोवाडा.
 - (2) तुलसीदास—तानाजीचा पोवाडा.
 - (3) सगनभाऊ—पानपतचा पोवाडा.
 - (4) लहरी मुकुन्दा—नारायणरावाच्या वधाचा पोवाडा (अर्मांक १५).
 - (5) प्रभाकर—सवाईमाधवराव (रंगाचा) पोवाडा.

PAPER III.

Books for Supplementary Reading.—

- (1) तिरंगी नवमतवाद by न० वि० केळकर (मनोहर ग्रन्थमाला १०५/१३ सदाशिव पेठ, Poona).
- (2) लोकहितवादी by ग० ह० केळकर (author, Amrai Camp Poona 4),

- (3) मालविका (The Union Stores, Topkhana, Indore City).
 (4) स्वामी सखिदानंदांचे विचार by म० म० जोशी (प्रो वा० म० जोशी, डेक्कन जिमखाना, पुणे ४).

Book for reference.—

- (1) मराठी साहित्य व व्याकरण विभाग १-२ (Second edition) by मो० स० मोने (Hingne Budruk, Poona 4).
 (2) वृत्तदर्पण by गोडबोले (Bombay Book Depot, Bombay 2).
 (3) अलंकारचंद्रिका by G. M. Gore (Karnatak Press, Girgaon, Bombay).
 (4) मराठी दीपिका by V. B. Kolte (Kolte Brothers, Malkapur, Berar C. P.).
 (5) महाराष्ट्र सारस्वत by भावे (भा० इ० सं० मंडल, सदाशिव पेठ Poona 2).
 (6) मराठी साहित्य समालोचन by V. S. Sarvate (Marathi Sahitya Sabha Topkhana, Indore City).

N B. Rules regarding Orthography passed by the Maharashtra Sahitya Parishad may be observed.

A MODERN EUROPEAN LANGUAGE. French.

There will be three papers of three hours each. The first paper will consist of passages for translation from the prescribed prose text-books together with questions on the subject-matter of these books and Grammar. The second paper will contain passages for translation from the prescribed poetry text-books, and from books prescribed for general reading and questions on their subject-matter together with an unseen passage for translation from French into English. The third paper will exclusively consist of a passage or passages of English Prose to be translated into French.

Paper I.—Prose and Grammar.—

Books prescribed.—

- (1) Erckmann Chatrian—Histoir d'un Conscrit de 1813, edited by O. Siepmann (Macmillan).
 (2) Balzac—Eugenic Grandet (Oxford University Press).

Grammar recommended.—

French Grammar (Sonnenchien's Parallel Grammar Series).

or

Heath's Modern French Grammar (Harrap).

Paper II.—Poetry, Rapid Reading and Unseen.—

- (1) *La Bastide Rouge* by Ellic Berthet (Macmillan).
- (2) *La Rose Blanche* by Louis Enault (Macmillan).
- (3) *La vie de Polichinelle* by Octave Feuillet all edited by Siepmann (Macmillan).
- (4) French Poetry for advanced students by A. W. Bain (Macmillan) of which poems nos. 2, 15, 23, 24, 30, 34, 35, 38, 43, 57, 61, 75, 102, 108 and 116, are prescribed.

Paper III—French Composition.—

Book recommended—Easy steps in French Composition by Horsley and Bonne (Rivington).

A CLASSICAL LANGUAGE.

Sanskrit.

There will be three papers of three hours each.

The first paper will contain questions on Poetry and Drama and will carry 35 marks divided approximately as follows:—

(a) Translation of passages from the texts	10
(b) Critical questions on the texts	10
(c) Explanation of easy passages from the texts into Sanskrit	10
(d) Questions on Metre	5
Total ...	35

The second paper of 35 marks will contain questions on Prose and General Reading and on Grammar. Candidates are expected to know, in addition to what they have already learnt for the High School Examination, Conjugation of verbs in लिट् (Perfect), लृट् (Aorist), and आशीर्लिङ् (Benedictive), कृत् and तद्धित forms, the formation of feminine endings, कारक and समास. Questions on Grammar will be exclusively based on the prescribed texts. Marks will be approximately divided as given below:—

(a) Translation from Sanskrit	10
(b) Questions on Grammar	15
(c) Writing the stories in Sanskrit from the texts	10

Total ... 35

The third paper of 30 marks will be on Composition and Translation into Sanskrit. The division of marks will be approximately as follows:—

(a) Translation into Sanskrit	15
(b) Amplification of a theme, the points of which are given	15

Total ... 30

Books Prescribed:—

PAPER I.—POETRY and DRAMA.

- (a) Poetry —(i) रघुवंश canto XIII and (ii) कुमारसंभवम् canto V.
 (b) Drama—प्रतिज्ञा यौगंधरायण by भास. (Gaya Prasad and Sons, Agra).

PAPER II —PROSE and GENERAL READING.

- (a) Prose—गद्यखंडानि (Scindia Book Depot, Educational Publishers, Gwalior).
 (b) General reading—
 (i) नाटककथासंग्रह by Pt. V. Anantacharya. Stories of शाकुंतल, मृच्छकटिक, उत्तररामचरित्, मुद्राराक्षस and वेणीसंहार (Ram Narain Lal, Allahabad).
 (ii) प्रबन्धप्रकाश by मंगलदेव शास्त्री Pages 40-74 (Indian Press, Allahabad).

PAPER III.—COMPOSITION and TRANSLATION.

Books recommended.—

1. Apte's Guide to Sanskrit Composition (Lessons on Karaka only).
2. Kale's Smaller Sanskrit Grammar (Gopal Narayan & Co., Bombay).

N. B.—Sanskrit must be written in Devanagari characters only.

ARABIC.

There will be three papers of three hours each in Arabic; the first paper will be on Poetry and Supplementary Reading, the second paper on Prose and Supplementary Reading and the third paper on Grammar, Composition and Translation into Arabic. Questions in Grammar relating to the text may be included in each of the first two papers.

Paper I—Poetry and Supplementary Reading.

Paper I—Poetry Text.—

I: (a) حسان بن ثابت :—

- | | |
|----------------------------------|----|
| عفت ذالات الاصابع فالجواء | ١ |
| هل رسم دار ستة المقام يباب | ٢ |
| عرفت ديار زينب بالكثيب | ٣ |
| صلى الا على لذبن قنابعوا | ٤ |
| الا والله ما تدري هذيل | ٥ |
| والله انا لا نفارق ما جدا | ٦ |
| وشق له من اسمه كي يجعله | ٧ |
| ما بالا عيني لا تلام كانما | ٨ |
| اليث حلفه بر غو ذى دخل | ٩ |
| ثار بنى ليل ييثرب اعسر | ١٠ |
| اظن عبيته ان زارها | ١١ |
| الا يا لقرم هل لماحم دافع | ١٢ |
| اعرض عن العرواء ان اسمعتها | ١٣ |
| لقد جدعت اذان كعب و عامر | ١٤ |
| اذ الاله حيا معثرا بفعالهم | ١٥ |
| ولقد بكيت و عز مهلك جعفر | ١٦ |
| لقد و رث الضلالة عن ابيه | ١٧ |
| ايا لهب ابلغ بان محمدا | ١٨ |
| الله اكرمنا بنصر نبيه | ١٩ |
| هل المسجد الا السرد والمرد والدى | ٢٠ |
| ابك بكت عيناك ثم تبادلرت | ٢١ |
| البن اذ الان العشير فان سكن | ٢٢ |

- ٢٣ ويثوب تمام أنا بها
 ٢٢ وممسكاء بصداع الرأس من سكر
 ٢٥ سقتم كذالة جهلا من عداوتكم
 ٢٦ لو خافى أناؤم أنسمانا يكلمهم
 ٢٧ نرى بمكته بضع عشرة حجة

<i>I (b)</i>	شعراء الصراية	Page.	Number of Lines.	Poet.
	أ أذكرك حاجتى أم قد كفانى	١ 220	9	أبيه ابن الصلت ٩
	أم تر أن الو أن عود صدره	٢ 94	4	قبيصته ابن النصراني ٣
	يكيت لفرسال وحق لناظري	٣ 147	7	البراق ٧
	لقد نصيحت لافرام وقلت لهم	٤ 616	9	ورقه بن قرفل ٩
	أ أجمع صجبتى السحر ارتحالا	٥ 201	6	عمر و بن كاثوم ٦
	فام نبصر لنا عظامنا لثما	٦ 208	11	ظهير بن جناب ١١
	لقيت نغاث كعصيته علد	٧ 243	9	الفند الزمانى ٩
	انما جارى لعمري اذنى عيالى	٨ 246	8	اجساس بن مرزة ٨
	با كعب انك لو قصرت على ديوان الحماسة <i>I (c)</i>	٩ 254	9	عبد المسيح بن عسله ٩
	إذا المرء لم يدنس من اللوم عرضه رياض الادب <i>I (d)</i>	28	22	سمزل بن عاديله ٢٢
	كنا كفضنين فى جرثومتهم سقا ديوان الخنساء <i>I (e)</i>	147	6	صفية الباهلية ٦
	اعينى جرد أولانجمدا	41	10	الخنساء بنت عمرو ١٠

Dr. A. S. Tritton's Edition of these Intermediate Arabic selections (printed and published by A. W. Jafri, Managing Proprietor, Anwar Ahmedi Press, Allahabad) is approved. Price Rs. 3/-.

The following book is recommended for Supplementary reading, and it indicates the standard of passages to be set as unseen.—

The first 30 (thirty) odes from دیوان سیدنا علی ابن ابیطالب

Publisher—Newal Kishore Press, Lucknow.

Paper II—Prose and Supplementary Reading.

Prose Text :

(a) ابن خلدون } The biography of the prophet.
Ibni-i-Khuldoon }

(b) تجارب الأمم—Tajaribul Umam (Eclipse of the Abbaside Caliphate). Volume I, pages 83 to 91—imprisonment of Imam Moosa, the stewardess, and appointment of Ibn Furat as vazir 310 to 311 Hijri, pages 202 to 246.

The following book is recommended for Supplementary Reading, and it indicates the standard of passages to be set as unseen.—

نوادير الحكايات Nawader-ul-Hikayat } First half, i.e., first (100)
by كاليوبي Kalyoobi. } one hundred stories.

Paper III—Grammar, Composition and Translation into Arabic.—

Grammar—مدارج العربية Madarej-ul-Arabia by Moulvi Izzat Ullah (Published by Chashmai Rahmat Book Agency, Ghazipur, U. P.).

Composition—Arabic Bolchal, Part II (Sheikh Mubarak Ali, Book-seller, Lohari Gate, Lahore).

Note:—Arabic words must be written in Arabic characters.

Persian.

There will be three papers of three hours each in Persian; the first paper will be on Poetry and Supplementary Reading, the second paper on Prose and Supplementary Reading, and the

third paper on Grammar, Composition and Translation into Persian. Questions in Grammar relating to the text may be included in each of the first two papers.

Paper I.—Poetry and Supplementary Reading.

Poetry Text :

(a) The following eight odes from دیوان حافظ (Diwan-e-Hafiz) :—

- (۱) ساقی به نور باده بزا فروز جام ما
- (۲) صلاح کار کجا و من خراب کجا
- (۳) اگر آن ترک شیرازی بدست آرد دل مارا
- (۴) دوش از مسجد سوء میخانه آمد پیر ما
- (۵) شب از مطرب که دل خورش باد ویرا
- (۶) صوفی بیا که آئینه صاف است جام را
- (۷) رونق عهد شبابست دگر بستان را
- (۸) به ملاز مان سلطان که رساند این دعا را

(b) دیوان نظیری (Diwan-e-Naziri) First 15 gazals.

(c) قصائد سلمان ساوادی (Kasaayad-e-Salman-e-Saavaji):—

- (۱) اے سران ملک راشمشیر تو مالک رقاب
- (۲) باد سحر گهی به هوائی تو جان دهد
- (۳) بدل رسید سحرگاه در مقام حضور

(d) قصائد ظہیر فاریابی (Kasaayad-e-Zahir Faaryabi):—

- (۱) سپیدہ دم چو شدم محکرم سوائے سرور
- (۲) سپیدہ دم چرون زند ابر خیمہ در گلزار
- (۳) شرح غم تو لذت شادی بجان دادم
- (۴) چون بز زمین طلیعه شب گشت آشکار

(e) یوسف زلیخا (Yusuf Zulaikha):—

(۱) بخواب دیدن یوسف مادر و پدر خرد را

بلے هرکس زغم دارد دل تنگ up to

(۲) وفات یافتن یوسف

هزاران فیض بر جان و تلخ باد-up to

Supplementary Reading:—

(a) دیوان سرخوش (Diwan-e-Sarkhoosh) First 15 odes.

Published by authority under the supervision of

Lieutenant-Colonel D. C. Phillot, Secretary,
Board of Examiners, Calcutta. Printed at the
Habi-ul-Matien Press.

(b) رستم و سهراب (Rustam Sohrab) Published by Anwar
Ahmedi Press, Allahabad.

Paper II—Prose Text and Supplementary Reading.

Prose Text.—

(a) سیاحت نامہ ابراہیم بیگ (Siyahat Nama Ibrahim Beg)
چہ بساط مقدس و مقام بلند روحانی است to عرض مخصوص
i.e., from page 1 to page 31. (Muzzafri Press, Bhindi Bazar,
Bombay.)

(b) ناسخ التواریخ (Nasekh-ul-Tawarikh): —

(a) برائے نصیحت و موعظت یازاں را up to ظهور لقمان حکیم
مخطاط ساخت

(b) ظهور فیہا شاہ رس حکیم

(c) ظهور جاماسپ حکیم

(d) ظهور سقراط حکیم

(e) ظهور افریطان حکیم

(f) ظهور بقراط حکیم

(g) ظهور سولون حکیم

(h) ظهور افلاطون حکیم

(i) ظهور اقلیدس صوری

(j) ظهور ارسطا طالیس

(c) آئین اکبری (Aaeen-e-Akbari); Sir Syed Ahmed's edition,
volume III, pages 291 to 298 i.e., from گفتار شاہنشاہی up to
۵۷ می فرمودند نمبر (no. 57).

(d) سفرنامہ شاہ ایران (Safar Nama Shah-e-Iran) from
تاہرا روشن ہر دمی رقصیدند—up to: روز و شبہ ذیقعدہ

Supplementary Reading.—

(Ser-ul Mutaakhrin only
Halaat-i-Akbar) and Adabyat-i-Ajam, part II, by Prof.
Abid Hassan Faridi (Ram Pershad and Bros, Agra).

روکات و فرامین عالمگیری از وقایع عالمگیری (Rookaat-o Faramin-e Alam-giri) edited by Chowdhri Nabi Ahmed Khan, Muslim University, Aligarh, U. P.

N. B. The selections prescribed for papers I and II are, it is understood published in book form by Messrs. Youngman & Co., Ajmer, (price Rs. 2/-).

Paper III.—Grammar, Composition and Translation into Persian language.

Grammar:

خزینة الفوائد حصہ دوم (Khazina-ul-Fawa'id) by Kazi Moulvi Mumtaz Husain. Jalalud-Din-Press, Allahabad.

Composition.—ادبیات اعجم حصہ دوم (Adabyat-i-Ajam, Part II) by Abid Hasan Faridi. (Ram Pershad and Bros., Agra).

LATIN.

Prescribed course:

I.—Text.—(1) Cicero : Pro Milone.

(2) Cicero : De Amicitia.

(3) Livy : Book XXII, Chapters 1—51.

(4) Virgil : Aeneid, VI.

(5) Horace : Odes, Book II.

II.—Grammar—Gildersleeve's Latin Grammar or Allen's Latin Grammar is recommended.

III.—Latin Prose Composition.

Book recommended :

North and Hillard's Latin Prose Composition (Revington).

Greek.

Prescribed course :

Text—(1) Plato : Apology and Crito.

(2) Sophocles : Antigone.

Hebrew.

Prescribed course :

I.—Text—Samuel, Book I.

Psalms, I to LX.

II.—Genesis is recommended for rapid reading in connection with unseen.

III.—Grammar—Duffs Hebrew Grammar is recommended.

PHYSIOLOGY, HYGIENE AND CHILD-STUDY.

(For women candidates only.)

Note.—The subject should be taught in such a way as to be practically beneficial to the students.

There will be two papers of three hours each : the first paper will contain questions on (1) Activities of the modern home, (2) Physiology and Hygiene, and (3) Public health, and the second paper on Child-Study.

I. (a)—Duties of a woman towards Society.

(b)—Knowledge of Races of the Indian People, their castes, their traditions, their customs taught in relation to the needs of Society.

II.—The study of Physiology and Hygiene, especially from the point of view of the physical development of the child.

A. The Cells, the supporting tissue and their structure.

B. The Skeleton; bones, joints, the muscular system. A special study of the conditions, making for the normal development of these systems, such as posture, etc.

C. Digestion and nutrition.—

(1) The organs and processes of digestion.

(2) The food needs of the body.

(3) The classes of food stuffs.

(4) The diet of the pre-school and school child.—

(a) Constipation as a special dietary problem of school children.

(b) Malnutrition—how to detect and remedy it.

(5) Effect of cooking on food; method of cooking with special emphasis on methods of cooking food for children.

(6) Treatment of minor digestive ailments.

(7) Alcohol and drugs and their effect on the digestive system.

D. The excretory system—the skin, kidney, bowels. Health habits of children in relation to the above.

E. The circulation of the blood—the heart; arteries; veins; capillaries. The regulation of the blood supply. The composition of the blood and its work in the body.

The problem of the child with a weak heart.

F. Respiration.

(1) The lungs; trachea; larynx; the composition of pure and impure air; effect of breathing on air,

(2) Formation of proper breathing habits in children. Posture; special breathing exercises.

(3) Ventilation for the school and home.

G. The nervous system and sense organs :

(1) The nerves, spinal cord; brain.

(2) The structure of the eye, ear, nose.

(3) Health, habits to promote the normal development of these organs.

(4) Common defects of these organs—how to detect them.

(5) Treatment of minor ailments and accidents.

(6) The effect of alcohol and drugs on the nervous system and sense organs.

H. Clothing :

(1) Selection of clothing, specially for children.

(2) Training of children as to care and cleanliness of clothing.

I. Occupation, exercise, recreation, rest, sleep. With reference to these, health habits to be established in children.

J. Precautions against common diseases :

(1) Health habits which will protect the child from common diseases.

(2) Health habits which will prevent the spread of infectious diseases.

III. Public Health:

A. Responsibility of the individual.

- B. Disposal of refuse and waste water. Drainage, Latrines.
- C. Water supply. Food supply.
- D. Prevention and arrest of infectious diseases.
- E. Gardens, playgrounds. Open spaces.
- F. Modern movements for the education of society in the laws of health, *e. g.*, "Child Welfare."
- G. Visiting institutions as follows :—
 - Orphanages, asylums, schools, slum areas, mills, factories, hospitals, Jails and creches.

IV.—Child-Study:

The study of children's development from the point of view of physique, intelligence and character, based as far as possible on the observation of individuals and classes.

An elementary study of the means by which children acquire knowledge and skill, including such as the following with special attention to Kindergarten and Montessori methods :—

The senses and sense training; instincts and their relation to children's interests; forms of activity and expression; the function of play; imitation and suggestion; habits and their formation, memory and imagination; interest and attention; the formation of clear and connected ideas; simple processes of reasoning; growth of the will.

The aims and methods of discipline; training in responsibility in the right use of freedom and social duties.

Books for reference :

1. Physiology, Public Health and Psychology by Charles Banks (Macmillan and Co., Ltd.).
2. *Elementary Hygiene for India.—C. Beresford (Lahiri and Co., College street, Calcutta).
3. Elementary Physiology—Bhatia and Suri. Longmans Green and Co.).
4. Child Mind by Dumville (University Tutorial Press, London).
5. Psychology of Childhood by Norsworthy and Whiteley (Macmillan).

6. Dawn of Mind—Drummond (Edward Arnold and Co., London).

7. Physiology by T. Huxley (Macmillan).

(The book marked* indicates the scope of the work required in Physiology and Hygiene).

INTERMEDIATE EXAMINATION IN COMMERCE.

The following are the subjects of examination :—

Compulsory subjects :

1. English.
2. Book-keeping and Accountancy.
3. Business Methods and Correspondence.
4. (a) Elementary Economics.
(b) Commercial Geography.

Optional subjects :

One of the following.—

1. Steno-typing (shorthand and type-writing).
2. Elements of Banking.
3. Elements of Industrial Organization.
4. Mathematics.

The following papers will be set.—

1. *English* : Two papers of three hours each.
2. *Book-keeping and Accountancy*: Two papers of three hours each.
3. *Business Methods and Correspondence* : Two papers of three hours each, each carrying fifty marks.
4. *Elementary Economics and Commercial Geography* : Two papers of three hours each, one paper on Elementary Economics and one paper on Commercial Geography.
5. *Steno-typing* $\left\{ \begin{array}{l} \text{Shorthand. One paper of three hours.} \\ \text{Type-writing. One paper of one hour.} \end{array} \right.$

6. *Elements of Banking*: One paper of three hours.
 7. *Elements of Industrial Organization*: One paper of three hours.
 8. *Mathematics*: One paper of three hours carrying one hundred marks.

No.	Subject.	Paper.	Time (hours)	Marks for each paper	Total marks for each subject.	Minimum pass marks.
COMPULSORY:						
1	English*	... { First paper (Prose) Second paper (Composition).	3 3	50 50	100	33
2	Book-keeping and Accountancy.	{ First Paper ... Second Paper ...	3 3	50 50	100	33
3	Elementary Economics and Commercial Geography.	{ First Paper (Economics). Second Paper (Geography).	3 3	50 50	100	33
4	Business Methods and Correspondence.	{ First Paper ... Second Paper ...	3 3	50 50	100	33
OPTIONAL:						
1	Steno-typing ...	{ First Paper (Shorthand). Second Paper (Type-writing)	3† 1	50 50	100	33
2	Elements of Banking.	One paper ...	3	100	100	33
3	Elements of Industrial Organisation.	One paper ...	3	100	100	33
4	Mathematics. ...	One paper ..	3	100	100	33

*The same as the first and the third papers in English for the Intermediate Examination.

†Excluding five minutes' interval between the dictation of two sections in Shorthand.

The syllabus in each subject is as follows :

ENGLISH.

(The same course as is prescribed for the Intermediate Examination of 1941, excluding Poetry portion).

Book-keeping and Accountancy.

Paper I. The principles of Double Entry Book-keeping and their application. Books of original entry, including tabular forms. The Ledger, Trial Balance, Manufacturing, Trading and Profit and Loss Accounts, with apportionments and adjustments.

Balance sheets, Loose Leaf and Card Index system of Book-keeping, Self-balancing ledgers, Single Entry Book-keeping.

In the treatment of the above the following matter will be included :—

Cheques, Bills of Exchange and Promissory Notes; Classification of assets; Bad debts, Depreciation, Reserves and Sinking Funds; Consignment, Joint Venture and Contract Accounts.

Paper II. Partnership and Company accounts (including the double account system); Capital and revenue; Investment Accounts; Accounts Current and Average due dates, Good-will.

Books recommended :

1. Students' Elementary Book Keeping by Arthur Fieldhouse (Simpkin Marshall and Co., Limited, London E. C., 4).
2. Advanced Accounts (fifth edition) by J. R. Batliboi (S. Govind and Co., Bombay).
3. Advanced Accounts by R. N. Carter (Pitman and Sons).
4. Advanced Accounts for junior by Y. D. Keshkar (G. R. Bhargava and Sons, Chandausi).

Business Methods.

1. The general routine of a business house : Inward and outward correspondence (excluding drafting); Methods of rapid communication; Duplicating processes.

2. The significance of trade, commerce, and industry; Manufacturing and distribution houses. The buying and selling of goods. Mercantile enquiry agencies. Importation and Exportation of goods. Bill of lading. Policy of insurance. Documentary bills, Elementary fire and marine insurance as

applicable to this section. Use of card indexes and filing systems in use in business.

3. The meaning of the principal commercial terms occurring in connection with the above and the preparation of the chief documents involved, including arithmetical calculations.

4. An elementary knowledge of the Law relating to Contracts, and Negotiable Instruments.

Contract Law—Agreements that are contracts; essentials of a good contract; offer and acceptance; genuineness of consent; contractual capacity of parties; legality of objects (agreements, unlawful, immoral, and against public policy void); performance and discharge of contracts; breach of contract; damages.

Sale of Goods : Sale of ascertained and unascertained goods, passing of ownership, delivery, actual and constructive implied warranties, rights of unpaid sellers.

Negotiable Instruments : Making, drawing, accepting and endorsing of Promissory Notes, Bills of Exchange and cheques. Crossing of cheques, Holder in due course, dishonour, noting and protest. Presentment for payment and acceptance, acceptance and payment for honour.

Books recommended :

1. Modern Business Training by John K. Grebby (MacDonald and Evans, London).
2. Business Methods by B. Singh (Sheo Prasad and Sons, Cawnpore).
3. Commercial Practice by Roop Ram Gupta and K. L. Govil, Parts I and II (Messrs. Gautma Bros. and Co., Cawnpore).

Correspondence.

This will consist of –

- (a) Draft of commercial and official correspondence.
- (b) Rewriting in plain language of passages from market reports (Money, share and commodity markets) with explanations of simple terms and phrases occurring in the passage.
- (c) ~~P~~recis-writing of passages.

Books recommended (not prescribed) :

Modern Commercial Correspondence, by John K. Grebby
(MacDonald and Evans, London).

Precis-writing by K. L. Govil (Gautam Bros. and Co.,
Cawnpore).

Market Report by Roop Ram Gupta and K. L. Govil
(Ram Prasad and Sons, Agra).

Elementary Economics.

(The treatment of the subject should be very elementary and primarily from the standpoint of Indian conditions).

The subject-matter and scope of Economics, fundamental notions and simple definitions. Relation between wants, efforts and satisfaction.

Production.—Factors of production. Land, Labour, Capital and Organization.

Nature and limitations of land; division of labour and other factors of efficiency of labour; organization of capital.

Laws of increasing, diminishing and constant returns.

Wants.—Diminishing utility. Value—its determination. Balancing of supply and demand.

The Machinery of exchange. Money and banking, both to be illustrated from Indian examples (including the Sahukari system in the villages and the Sarafi system in cities). Convertibility of paper money in India. Cheques and Hundies (Foreign exchanges are excluded).

Distribution : Rent. Interest. Wages. Profits. Co-operative Stores.

Books recommended for students :

1. Penson : Economics of everybody Life, Part I (Cambridge University Press).

2. Chapman : Elementary Economics (Longmans Green and Co, Bombay).

3. P. Bannerjee : A study of Indian Economics (latest edition) (Macmillan).

Books for reference for teachers.—

1. Moreland : Introduction to Economics for Indian students (Macmillan).

2. Dr. P. Basu : Economic Principles (Oxford).

Commercial Geography.

(a) An elementary study of the principles of Economic Geography on the basis of regional divisions, trade centres, ports and trade routs.

(b) Economic Geography with special reference to India.

The world position of India. Its natural resources, economic development Exports and Imports. Man's influence over natural conditions. Irrigation. Communications. Manufactures. Industries. Growth of towns.

World distribution of the major products of commerce : wheat, rice, tea, coffee, the vine, cotton, jute, rubber, tobacco. Conditions of their growth. World supply of coal, iron, petroleum.

Books recommended :

Rudmose Brown's Principles of Economic Geography
(Sir Isaac Pitman and Sons, New York).

Howarth's A short Commercial Geography (Clarendon Press, Oxford).

Stamp : Intermediate Commercial Geography, Part I.
(Longmans Green and Co., Bombay).

The Statesman Year Book (Macmillan).

The Indian Year Book (Times of India Press, Bombay).

Stamp and French : Indian Empire (Longmans).

Relevant Chapter from India (published by the Government of India).

Curr : Commercial Geography (A and C. Black Ltd., London).

Government of India Press, Calcutta. Hand Book of Commercial information.

Imperial Gazetteer of India, Volumes III and IV. (Oxford University Press, Bombay).

Lyde : Man and his Markets (Macmillan).

Atlas of Commercial Geography (Cambridge Press).

Statistical Atlas of the World (Pitman).

Lyde—Economic Atlas.

Crope Atlas of India (Government of India Press, Calcutta).

The Elements of Economic Geography by M. S. Saxena, published by Indian Press, Allahabad.

TYPE-WRITING.

This will be the same as in Commerce for the High School Examination of 1941, but of a more advanced character—the speed to be 30 words per minute.

There shall be no paper on the theory of type-writing.

The maximum marks and the time allotted to the papers in this subject are as follows.—

	<i>Marks</i>	<i>Time allowed.</i>
Type-copying {	(a) Passage and letter ...35	1 hour.
	(b) Tabular statement ...15	
	—	—
	Total ...50	1 hour.
	—	—

Books recommended :

1. Pitman's (Pitman and Sons, London) or Remington's Type-writing Manual.

2. A Type-writing Manual for Indian Students, by E. M. Moffatt and V. A. Kshirsagar (Methodist Publishing House, Lucknow).

3. The New Manual of Type-writing by Y. D. Kashkar and Jugdish Saran (Methodist Publishing House, Lucknow).

4. Gupta and Agarwal—Modern Theory and Practice of Type-writing, book II (Gupta Bros., Khurja).

SHORTHAND.

1. Writing in shorthand from a passage dictated at the rate of 80 words a minute, for a period of ten minutes.

2. Writing in shorthand from a business letter of general commercial phraseology, dictated at the rate of 80 words a minute, for a period of five minutes.

3. Transcription of both the above.

Book recommended :

Pitman's Instructor by Pitman and Sons, London.

ELEMENTS OF BANKING.

1. The nature of Banking.
2. The functions of a Banker.
3. The meaning of Banking and other mercantile terms.
4. Simple Banking operations.
5. Elements of Foreign Exchange.
6. The constituents of the Indian money market.
7. Indigenous Banking in India : Shroffs and Mahajans and their operations.
8. The Indian joint-stock banks.
9. The Imperial Bank of India.
10. Co-operative Credit Societies and Co-operative Banks, Industrial Banks and Land Mortgage Banks.
11. The question of a Central Bank for India.
12. The financing of Indian trade.
13. How to read the money market reports.
14. Elements of Indian law relating to Bills, Cheques and Promissory Notes.
15. Defects and cases of the backwardness of Indian Banking.
16. Development of Indian Banking.

The following books are recommended :—

1. Dunbar—The Theory and History of Banking (G. P. Putnam's Sons, New York).
2. Intermediate Banking by Audholia (Publisher—L. N. Agarwala, Agra).
3. The Indian Money Market by K. K. Sharma, published by Banglore Printing and Publishing Co., Mysore Road, Banglore City.
4. Banking in India by B. S. Audholia (Lakshmi Narain Agrawal, Agra).
5. Principles of Money and Banking by N. K. Kathia (Gaya Prasad and Sons, Agra).

ELEMENTS OF INDUSTRIAL ORGANIZATION.

1. The organization of an Indian Village.
2. Systems of land tenure and methods of cultivation.
3. Obstacles to agricultural progress and their remedies.
4. Cottage industries—their relation to agriculture.
5. Elements of Factory Organization from the point of view of production and management.
6. Co-operation in Production and Distribution.

Books recommended :

Administrative Report of the Government of India (India) for the current year.

The Indian Year Book for the current year. (Times of India Press, Bombay).

The report of Industrial Commission.

MATHEMATICS.

- (a) Commercial Arithmetic, Proportion, Percentages, Stocks and Shares, Present Worth and Discount, Exchange Rates, Partnership, Profit and Loss, Commission, Brokerage, Premium.
- (b) **Algebra**—The Theory of Quadratic Equations, Arithmetical, Geometrical and Harmonic Progression, Permutations and Combinations, Theory of Indices

and Logarithms, Use of Binomial and Exponential Theorems.

(c) Elements of Differential Calculus.

TEACHERS' TRAINING CERTIFICATE EXAMINATION.

The course for the training of teachers consists of the following three parts :—

A. Practical work in teaching.—

Each student shall be required to teach at least 60 lessons under supervision, in at least three different subjects, of which two shall be English and Arithmetic.

There shall also be demonstration lessons conducted by members of the staff.

Each student shall also be required to give at least two criticism lessons.

Each student in the course of his practical work shall acquaint himself with the ordinary routine of school work.

B. Papers on Education.—

Every student shall be required to write on the following three papers :—

- (a) Principles of teaching (including an elementary knowledge of Educational Psychology).
- (b) Methods of Teaching.
- (c) School Management and Hygiene.

C. A study of the following :

Black-Board writing and sketching, Gardening and Nature Study or Handwork, Physical Training including Scouting.

Examinations :

There shall be both a practical examination in teaching and a written examination, the latter to consist of three papers on the three subjects indicated in (B) above.

In the practical test each candidate shall be required to teach two lessons, these to be chosen by the Principal of the

institution to which the candidate belongs. The candidates shall be required to teach in the presence of a board of examiners consisting of two external examiners appointed by the Board, associated with the Principal of the training institution to which the candidate belongs.

200 marks shall be assigned to the practical examination. 40 per cent of the total shall be required in order to secure a pass, 50 per cent for second division standing, and 65 per cent for first division standing.

In drawing up his report on candidates for submission to the practical examiners, the Principal of the institution shall take into account the work done by candidates in part C above.

In the written examination there shall be three papers. *viz.* Principles of Teaching, Methods of Teaching and School Management and Hygiene.

Each paper shall be of three hours' duration and each paper shall have 100 marks assigned to it.

33 per cent of the total shall be required in order to secure a pass, 45 per cent for second division standing, and 60 per cent for first division standing.

The results of the theoretical and practical examinations shall be declared separately.

SYLLABUS OF STUDY.

PAPER I.

A. Principles of Teaching (including an elementary knowledge of Educational Psychology).

1. Aims of Education; psychological, ethical and sociological; education and instruction.

2. The functions of different educative agencies; the place of the school in the process of education.

3. Stages of physical and mental development of children; physical and mental characteristics at each stage.

4. Instincts of special value in education; emotions, sentiments and complexes; repression *versus* readjustment. Habit, character and will.

5. Sense training of children in schools, the place of perception and observation.

6. Interest and attention; conditions for securing interest; cultivation of interest in school; the problem of interest and effort.

7. Reasoning; inductive; deductive, analytic and synthetic methods of instruction; their nature, purpose, uses and limitations.

8. Memory and association; effective methods of training the memory. The role of imagination in child life; appeal to the imagination through school work.

9. Individual versus class-teaching; teachers' preparation and presentation of lessons; the Herbartian steps, their uses and limitations.

10. Modern developments in pedagogic practice; the Dalton Plan; the Project Method; the Play Way; the Heuristic Method etc.

11. Principles underlying the use of various teaching devices, e. g. illustrations, explanations, questions and answers, and correlation of studies.

12. Measurement in Education; mental and scholastic tests; individual and group tests of intelligence; individual differences; the problem of highly gifted and retarded children.

Books recommended for students' use :

1. Ross—Groundwork of Educational Psychology (G. G. Harrap and Co.).
2. Sturt—The Child under Seven (Kegan Paul).
3. Findlay—Principles of Class Teaching (Macmillan).
4. Adams—Modern Developments in Educational Practice (University of London Press).
5. Drever—Introduction to the Psychology of Education (Edward Arnold and Co., London).

6. Raymont—The Principles of Education (Longmans Green and Co., Bombay).

Books suggested for reference :

1. Nunn-Education—Its Data and First Principles (Edward Arnold and Co.).
2. Sturt and Oakden—Matter and Method in Education (Kegan Paul).
3. Dumville —How to Teach (Oxford University Press).
4. Board of Education (England) --Psychological Tests of Educable Capacity.
5. Ballard—Mental Tests (London University Press).
6. Jha—Modern Educational Psychology (Indian Press, Allahabad).
7. Education for a Changing Civilization by Kilpatrick.
8. The School and Society by Dewey.

PAPER II.

B. Methods of Teaching

The different methods of teaching, *viz.* Inductive and Deductive, Analytic and Synthetic, Heuristic, and Socratic etc., their nature, purpose, uses and limitations.

2. The Herbartian Steps, their advantages and limitations, their modern modifications for individualising instruction (the Dalton Plan etc.) and for socialising education (the Play Way, the Project Method, etc.). Experiments with some of these methods in Indian Schools.

3. A general acquaintance with the methods of teaching the various subjects of the school curriculum and a fuller knowledge of the principles and methods of teaching language (including English and the Mother Tongue), Arithmetic and at least one other subject with special reference to the following.—

- (a) Value of the subject for the stage at which it is taught.
- (b) Different aspects of the subjects; their aims and mental relations.

- (c) Methods applicable for the different aspects at the various stages.
- (d) Teachers' and pupils' shares in the study of the subject.
- (e) Types of oral and written exercises in the subject necessary and suitable for the various stages.
- (f) Preparation of typical syllabuses (detailed) and notes of lessons.
- (g) Nature of practical (expressive and constructive) work suitable for the various stages in the subject; how to conduct them.
- (h) Use of teaching devices and aids at the various stages.
- (i) Types of error committed by pupils in the subject and how to guard against them.

Books recommended :

1. MacNee—Instruction in Indian Secondary Schools (Oxford University Press).
2. Board of Education (England) - Hand Book of Suggestions for Teachers: Adastral House, Kingsway, London W. C. 2.
3. Ryburn—Suggestions for the Teaching of English in India (Oxford University Press).
4. Potter—The Teaching of Arithmetic (Sir Isaac Pitman and Sons).
5. Drummond—The Teaching of History (George Harrap and Co., Bombay).
6. Welton—The Teaching of Geography (University Tutorial Press, London).
7. Brown—Teaching Science in Schools (University of London Press).
8. Ballard—Teaching the Mother Tongue (University of London Press).
9. Adams—Modern Developments in Educational Practice. (University of London Press).
10. Suggestions for the Teaching of English Spelling in India by H. R. Bhatia (Oxford University Press).

11. The Concrete Illustrations by G. N. Singhal, Headmaster, Darbar High School, Jodhpur.
12. Practical School Method by Boardman.
13. Teachers' Hand book to Fraser's Picture Composition by Martin and Frazer (K. J. Cooper, Bombay).

PAPER III.

C. School Management and Hygiene —

(1) School Organisation.—

- (a) Functions and characteristics of a good school—its organised corporate life, clubs, societies and games.
- (b) Organisation of discipline, the personal authority and influence of the teacher; social discipline; the beginning of self-government in primary schools. Punishment and rewards not proper motives for working; evils of excessive corporal punishment.
- (c) Co-operation of the school with the home; means for establishing this contact; progress report, joint meetings.
- (d) The school as the centre of the community life of the neighbourhood— means for establishing this contact, Scouting, social surveys; use of the school building for community purposes; Rural and adult education.
- (e) Co-operation amongst the staff; functions of the head-master and other masters; staff meetings, subjects-teachers and class-masters
- (f) Time-table – apportionment of the time at the different stages of the school between the academic and other activities; allowance of sufficient time for practical work; outdoor activities and social work.
- (g) Organisation of hostel life.
- (h) Equipment of the school and class-rooms—school and class libraries; workshop; playing fields; school garden ; school plans

(i) School office and records.

2. Hygiene.—

- (a) An outline of the human body, with special reference to the peculiarities and needs of childhood; the circulatory, respiratory, digestive, excretory and nervous systems.
- (b) Hygiene of factors influencing growth and developments, food, water, air, clothing, school conditions including space, ventilation, lighting, furniture and strain posture, fatigue, medical examination of pupils and their treatment.
- (c) Eyes and eyesight; effect of school work on eyesight, care of the eyes.
- (d) Physical training, organised games, sports and recreations.
- (e) First aid, common infectious diseases, their symptoms, treatment and preventive measures, respective duties of teachers and the medical officer.
- (f) Hygiene and sanitation of the school building and hostels, including out-houses, kitchens, latrines etc., and the whole compound. Supply and supervision of food, refreshment and water at school and in the hostel.

Books recommended :

- 1. Wren—Indian School Organisation (Longmans Green and Co., Bombay).
- 2. Saiyidan—The School of the Future (Indian Press, Allahabad).
- 3. Lyster—The Hygiene of the School (University Tutorial Press).
- 4. Brayne—Better Villages (Oxford University Press, Bombay).
- 5. First Aid to the Injured (St. John's Ambulance Association.)

Books for reference :

P. B. Ballard—The New Examiner (Longmans Green and Co., Bombay).

W. M. Ryburn—Suggestions for the Organisation of Schools in India (Oxford University Press, Bombay).

H. E. Bennett—School Efficiency (Ginn and Co, Ltd., London).

MADAN MOHAN VERMA, M. A., RAI SAHIB,

Secretary, Board of High School and Intermediate Education,

AJMER:

Rajputana (including Ajmer-Merwara),

March 1, 1939.

Central India and Gwalior.



